WORCESTER WORKS.

Worcester State College Catalog 1982—1984

UNDERGRADUATE and GRADUATE CATALOG

Worcester State College
486 Chandler Street, Worcester, MA 01602-2597

ACADEMIC YEARS 1982-1983
1983-1984

Directions for Correspondence

The general address for all correspondence is: Worcester State College, Worcester, MA 01602-2597, Telephone (617) 793-8000 (Graduate School and Program of Continuing Education: 793-8100). In order to avoid delay, correspondents are requested to note the following directions when requesting information and materials from the college.

Requests for:

Catalogues should be addressed to the Director of Admissions or the Office of the Graduate School;

Continuing Education brochures should be addressed to the Continuing Education Program;

Transcripts

Students whose degree (bachelor's and/or master's) from the College should write to the Registrar;

Students who have not completed their bachelor's degree should write to the Registrar for a transcript of courses taken through the Day Session, and to the Dean of Continuing Education Program for a transcript of courses taken through the Continuing Education Program;

Students who have not completed their master's degree at Worcester State College should write to the Dean of the Continuing Education Program for a transcript of courses taken. There is a charge of $1.00 for each transcript.

Inquiries concerning:

Admission to the undergraduate day school should be made to the Director of Admissions;

Health services, housing, loans, and scholarships should be addressed to the Vice-President, Student Services;

The Summer Session should be addressed to the Dean of the Continuing Education Program;

The Graduate School should be addressed to the Dean of Graduate and Continuing Education;

Placement should be addressed to the Director of Placement;

Continuing Education should be addressed to the Dean of Continuing Education;

Financial Aid should be addressed to the Director of Financial Aid;

Alumni Affairs should be addressed to the Alumni Office;

Teacher Certification should be addressed to the Director of Teacher Certification, Department of Education, 31 St. James Avenue, Boston, Massachusetts 02116.

Matters not covered above should be addressed to the President of the College.

Phone Directory

Academic Affairs	793-8038
Administration and Finance	793-8050
Admissions: Undergraduate	793-8040
Alumni Association	793-8077
Bookstore	754-3448
Campus Center	793-8073
Financial Aid	793-8056
Institute for Community Service	793-8141
Library	793-8027
Personnel Office	793-8028
President	793-8020
Public Relations	793-8033
Registrar	793-8035
Residence Halls	793-8074
Security Office	793-8045

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Students are requested to familiarize themselves with the College's policies, programs, courses, degree requirements and general information. The right to change announcements or regulations is reserved for the College. This catalog is not intended to be, and should not be relied upon, as a statement of the College's contractual undertakings.

GENERAL INFORMATION GRADUATE AND UNDERGRADUATE

This General Catalog of Worcester State College consists of programs, courses, degree requirements, academic policies and faculty. All students are responsible for the rules and regulations. The College reserves, for itself and its departments, the right to change its announcements or regulations whenever such action is deemed appropriate or necessary. This Catalog is not intended to be and should not be relied upon as a statement of the College's contractual undertakings.

ACCREDITED BY:

National Council for Accreditation of Teacher Education
National League for Nursing
New England Association of Schools and Colleges, Inc.

MEMBER OF:

American Association of Colleges for Teacher Education, American Association of University Women, American Council of Education, American Association of State Colleges and Universities, College Entrance Examination Board, College Placement Council, Eastern States Association for Teacher Education, Massachusetts Council of Teacher Education, New England Teacher Preparation Association, Worcester Consortium for Higher Education, American Assembly of Collegiate Schools of Business, National Center for Higher Education Management Systems at Western Interstate Commission for Higher Education, National League of Nursing, American Association of Collegiate Registrars and Admissions Officers, National Summer School Associations, Association for Continuing Higher Education, National University Extension Service, National Council of Graduate Schools, American Association of Adult Education, North American Association of Summer Schools, American Society for Training and Development, Worcester Area Chamber of Commerce.

The College supports the efforts of secondary school officials and governing bodies to have their schools achieve regional accredited status to provide reliable assurance of the quality of the educational preparation of its applicants for admission.

Prologue

Located in the very heart of Massachusetts, Worcester State College is an established and growing institution which provides the excitement and opportunities of a modern metropolitan college. Enrollment has already reached 4,000, and is increasing.

The College provides a wide range of four-year degree programs and an increasing number of master's degrees and Certificates of Advanced Graduate Study (CAGS). Students will find opportunities in conventional disciplines in the arts and sciences and may prepare for a number of professional careers.

The College's reputation for high-quality teaching by dedicated faculty in moderate-size classes is bringing an ever-increasing number of students from across the state, from other states and from other countries.

A wide variety of opportunities is offered through the Program of Continuing Education; and the College's Urban Studies and Community Service have dedicated themselves to the service of the community. The Communication Disorders Department sponsors a free speech clinic for local children and adults with problems in speech and hearing. The Computer Center also offers its many services for individual and businesses with problems in the use of computers.

Contemporary buildings of modern design have manifested the College's awareness of the age in which it serves. Located in the center of the city, the College can be reached by a competent bus service which arrives at the school every twenty minutes. A consortium bus travels to each of the schools of the Worcester Consortium.

The College, public, state-funded, is one of the nine state colleges which comprise the Massachusetts State College System. It is governed by a local Board of Trustees, under the direction of the Board of Regents of Higher Education.

From its very beginning in 1874, the College has been dedicated to offereing collegiate programs which lead to self-enrichment and careers in the professions, government, business and industry. It has always served the individuals and the community of Worcester.

Policy on Non-Discrimination

The College is committed to a policy of non-discrimination and affirmative action in its educational programs, activities and employment practices. It is the policy not to discriminate on the basis of race, sex, color, national origin, age or religion, or handicap. The College maintains its policy of non-discrimination and affirmative action in fulfillment of the requirements of Executive Orders 11246 and 11375, Titles IV, VI, VII, IX and X of the Civil Rights Act of 1964 as amended in 1972; Sections 503 and 504 of the Rehabilitation Act of 1973, as amended; Section 402,

Vietnam War Veterans Readjustment Assistance Act of 1974 and pertinent laws, regulations and Executive Directives of Massachusetts, including regulatory procedures set forth by the Board of Higher Education under Chapter 820 of the Acts of 1973; and other applicable state and federal statutes.

The Affirmative Action Officer may be contacted regarding the College's policy of non-discrimination and affirmative acttion, (including compliance with Section 504 of the Rehabilitation Act of 1973, as amended) in the third floor of the Administration Building.

Statement of Philosophy

Worcester State College is committed to student development through undergraduate education, continuing education, graduate education and community service. The College is an institution with a strong commitment to liberal education. It aspires to the fullest possible development of the individual as the true goal of higher education. It recognizes that professional preparation must be liberal if it is to have lasting value, and recognizes that liberal education includes career objectives. The quality offered and the individual contributions of our graduates to society are the clearest measures of our aspirations.

Objectives

Worcester State's objectives are to graduate students at the undergraduate and graduate level who are responsible members of modern society; knowledgeable of our western heritage and appreciative of other cultures; conversant with science, concerned with social problems, and respectful of human values; skillful in the process of analysis, able to judge between competing claims and creative in their thinking; alert and fluent in defense of fundamental rights and courageous in their beliefs.

College Governance

The College governance system involves faculty, students and administrators in representative bodies which deliberate on College issues and recommend action to the President of the College.

Gender and Number

The masculine pronoun includes the feminine, and the singular includes the plural where the context permits or requires.

Cancellation of Class Meetings

In the event of cancellation of class sessions, the community will be informed by radio through WBZ, WNEB, WORC, WSRS, and WTAG. Please do not call the College for this information. Every effort will be made to provide adequate notice of cancellation.

Alumni Association

The Alumni Association of the College is the official alumni association. Graduates of the College are encouraged to provide current addresses and employment information so that the College may maintain lifelong contacts with each individual. Membership can help former students maintain friendships of college days and obtain useful information about programs, benefits and social activities. The association sponsors an annual fund-raising gathering to raise money for its scholarship program, and it hosts a reception for graduating seniors. Class reunions are held to honor the anniversaries of various classes of graduates. Homecoming is also an annual fall event.

The Alumni Office is in the Campus Center and encourages alumni to visit the campus and to keep the group informed of significant events which are passed along to other graduates in the *Alumni Newsletter* which is published three times a year.

An Alumni Director presides over the organization and oversees its function and coordination. All graduates of the undergraduate and graduate college are invited to join and serve on its various committees.

CAMPUS RESOURCES

Services to Students

Students are faced with numerous problems. Questions and concerns about educational programs and academic development, housing, finances, health, social activities, part-time work, and post-college study or employment, are explored through mutual interaction with students by sensitive and dedicated professionals involved in the major area of student needs. A wide range of activities is provided to complement and personalize the academic experience of each student. Specific services are provided in the areas of counseling, housing, finances, health, social activities, part-time work, and post-college study or employment.

A primary function of the Office of Student Services is counseling students. A wide range of counseling services are available. The professional staff is qualified to assist students. With the cooperation of the student, referrals to other helping persons and agencies are made when appropriate.

We are dedicated to supporting your effort to achieve an outstanding educational preparation and work to help you personally define and obtain your goals. The following are some of the services that we provide:

Athletics

The Department of Health and Physical Education provides a wide range of intercollegiate, intramural and recreational activies for men and women. The objectives of the programs are to promote qualities of leadership and sportsmanship; enhance emotional and social development and provide opportunities for the development of physical skills.

Intercollegiate athletics play an important part of life on the College campus. They provide for a higher level of competition with other colleges in the eastern part of the United States. Among the intercollegiate sports offered are: baseball, basketball, cross country, football, golf, ice hockey, swimming, tennis, track, club tennis and volleyball. The College is a member of the National Collegiate Athletic Associa-

tion, the National Association of Intercollegiate Athletics, The Massachusetts State College Athletics Conference, the Eastern College Athletic Conference and the National, Eastern and Massachusetts Association for Intercollegiate Athletics for Women.

Recreation Programs

The intramural program provides competitive experience in a variety of team and individual sports and includes modern dance, swimming, and gymnastic clubs.

The recreation program provides many opportunities for social involvement. Some of the highlights of the program include mountain climbing, camping, biking and skiing trips as well as many seasonal activities.

Career Planning and Placement

The services of the Career Planning and Placement Office are available to all matriculated students and College alumni. Notices for full and part-time job openings off campus are posted in the Career Planning & Placement Office, (Room 289, Campus Center).

Some of the other services offered include: career counseling, interest testing, workshops related to the job search, graduate and professional school advising, on-campus recruiting, summer employment, internship information, and senior placement credentials.

The office also contains a great variety of career materials related to all academic programs offered by the College, current and emerging fields, federal and state civil service opportunities, and the many facets of the job search.

A completed placement file is of utmost importance.

The Office maintains a listing of available positions in teaching, counseling, administration and related occupations, government agencies, and industries.

The Office arranges campus interviews whenever possible. The dates of these interviews are posted on campus bulletin boards.

Seniors who are majoring or minoring in Education shuld initiate application for Massachusetts Teacher Certification with the Placement Office. Each senior who is certifiable upon graduation should take advantage of the opportunity.

During each semester seminars will be offered covering the following areas: Resume preparation;Interview information; Job/career search process.

Counseling Center (Room 280, Campus Center)

A counseling psychologist working within the Office of Student Services is available to take referrals from students, faculty, and administrators and to direct counseling activities. In order that the student may enter into a relationship with any of the counselors within the Office of Student Services with a basic sense of safety and trust, strict adherence to confidentiality of information is assured.

The Center administers vocational and CLEP tests, and maintains an up-to-date graduate school and career development library.

Appointments are recommended but not required.

Social and Cultural Events: Student Life

The areas of Student Life offer the College community a wide variety of cultural, social and recreational activities to supplement and compliment classroom studies. Various organizational and leadership-developing opportunities enable students to broaden their understandings of accepting responsibility for others and functions, while providing unique maturing experiences. The Campus serves as the focal point for student activities: food service in the dining rooms and Snack Bar; film offerings in the Auditorium; topical lectures; arts and crafts exhibits; distinguished speakers and performing artists; dances and live entertainment; charter travel services; and a wide range of recreational activities in the game-room complex.The students are encouraged to participate in the TV Club, the campus radio (WSCW) and the newspaper, the *New Student Voice,* the Lancer Society, the Student Government Association, the Allied Health Club, the Exhibitionists, the Center for the Study of Constitutional Government, and the Chandler Village Government.

The College and student government sponsor such annual events as the Whitney Award to the outstanding senior; the Lancer Award to the outstanding Athlete; Homecoming for students and alumni; the Spring Festival; the Sports Banquet (for all members of club and varsity sports); and Senior Week. The Alumni Association hosts a reception for seniors and sponsors Camelot, a medieval pagent.

These are only some of the many extra-curricular events. The *Student Guide* lists and explains all of the many social and cultural events. Students meeting with their classmates and teachers on an informal basis is an integral part of the collegiate experience.

Religious Groups

In the neighborhood of the campus there are various religious groups and churches with which interested students may affiliate. A listing of these can be obtained in the Office of Student Services. In addition there are a number of student religious clubs.

Veterans Affairs

This office offers general information on the current G.I. Bill, counseling, educational guidance and assistance in job opportunities. It provides direct contact between the veteran and the Veterans Administration Regional Office in Boston.

Those students who may be eligible for educational benefits are: Veterans of the Vietnam era, who have 10 years from date of discharge from active duty in which to use their G.I. Bill eligibility, and those who have 15 years from the date of discharge from active duty in which to use their Massachusetts tuition exemption; orphans, wives, widows, and widowers of veterans whose death or permanent total disabilities were service connected; wives and children of servicemen (missing in action or prisoners of war, for more than 90 days).

Located in the Campus Center, the Veterans Affairs Office is open daily from 9:00 a.m. through 5:00 p.m. Veterans and/or veteran dependents may also find assistance at the Division of Graduate and Continuing Education, Room S-112, Monday through Thursday, from 6:30 p.m. to 8:30 p.m.

This office also acts as an informational center, as well as providing counseling relative to veterans matters such as employment, housing, financial aid and tutorial assistance.

Standards of progress are demanded by the Veterans Administration:

1. If a veteran or veteran dependent drops a course(s) or drops out of school - he must notify the Campus Veterans Affairs Office, and the Registrar. Dismissal from school due to low academic performance will mean a termination of veterans benefits. Any over-payment from the Veterans Administration must be returned.

2. A "W" on a grade report that is not substantiated by an officially DATED and signed form at the Registrar's office indicating extenuating circumstances will be considered by the Veterans Administration as a course NOT taken as of the FIRST day of the semester. This may create an overpayment which must be returned to the Veterans Administration under penalty of fraud.

3. Veterans and veteran dependents are required to sign an attendance list verifying attendance and course load at the Veterans Office.

Foreign Student Services

Any student who is not a United States citizen must contact the Foreign Student Advisor upon acceptance to the College. The Vice President, Student Services, serves as the Foreign Student Advisor and is located in the Campus Center, Room 292.

All non-immigrant students must be full-time (carrying at least 12 credit hours or more per semester) to maintain his status with the Department of Justice, Immigration and Naturalization Service.

The Foreign Student Advisor's office staff is available to assist foreign students in immigration matters, personal counseling and international student activities.

Health Services

The Health Services Office is located in the Gymnasium Building off the main foyer. A full-time Registered Nurse is on duty. Treatment is kept completely confidential, plus all "Outside Medicals" are kept on file there.

Health Services hours are: 8:30 a.m. to 4:30 p.m. Monday through Friday. The College Physician is in attendance from 9:00 a.m. to 10:00 a.m. on Monday, Wednesday and Friday.

Student Health Insurance cards and claim forms are available at the Nurse's Office.

Dismissal Policies

A student is admitted tothe College in the expectation that he will accept and abide by the high standards of conduct and scholarship established by the faculty, administration and student governing boards. The College reserves the right to require any student to withdraw who does not maintain acceptable academic standing. The College also reserves the right to dismiss with due process a student who does not meet the requirements of conduct and order, or whose behavior is inconsistent with the standards of the College. The Student Handbook outlines all campus policies and may be obtained in the Office of Student Services.

Campus Housing

The College offers a number of lifestyle experiences for its resident students. Each lifestyle is designed to encourage the maximum development of the resident student's potentials. This "living-learning" environment provides for various needs of the resident student:

A. For Freshmen, a modified apartment lifestyle is offered with close contact with upperclass student advisors, designed to assist the new student in making a rapid and effective adjustment to college life.

B. For upper-division students who wish to experience a close academic community and who have demonstrated good citizenship and academic excellence, an option to enjoy apartment-style living with other resident students who share common interests and achievements.

C. For students who wish to enjoy apartment-style living in large and small group settings, our traditional residential atmosphere with proximity to the Resident Assistant Staff.

There are three types of sleeping accommodations available to residents: singles, doubles, and multiples.

Although a space in the Residence Halls is provided on a contractual basis for the entire academic year, room rates are billed on a semester basis and must be paid prior to occupancy each semester.

Room Reservation Deposit/ Damage Deposit (RRD/DD)

All residents must pay a $100.00 RRD/DD prior to room occupancy.

A. A student accepted as a Resident Student must submit to the Admissions Office $50.00 of the $100.00 RRD/DD in a separate check, at the time that the $50.00 tuition deposit is paid. The date that these payments are due will be determined by the Admissions Office.

B. A student accepted as a Commuting Student may submit to the Residence Hall Office $50.00 of the $100.00 RRD/DD with a signed agreement to be considered for a room assignment.

C. The returning Resident Student must submit $50.00 of the $100.00 RRD/DD with a signed agreement at the time of room selection for the following year.

Payment of the deposit and resident's receipt of an agreement signed by the College will reserve a space until occupancy. The remaining $50.00 of the $100.00 RRD/DD will be billed with room rent.

Food Plan - Mandatory for all Freshmen

(Class designation identifies freshmen).
The food plan is optional for upper classmen.

Off-Campus Housing

Private homes, rooming houses and apartments provide additional accommodations for students. Off-campus housing information can be obtained in the Office of Student Services. Listings of available accommodations are maintained in this office, but are not compiled for mailing, since availability changes so frequently. Students themselves are responsible for contacting and making arrangements with landlords. Students must register their local address with the Office of Student Services.

Alternative for Individual Development Program (A.I.D.)

The A.I.D. Program is an educational assistance program for students from minority and disadvantaged backgrounds. Included in this category are educationally, culturally and economically disadvantaged students.

The A.I.D. Program provides services to students with the recognition that without such services they are not likely to achieve their educational objectives at the College.

The following services are available by appointment: Counseling; Academic Assistance; Effective Study Skills Training; Financial Aid Information.

The A.I.D. Program actively recruits students who show motivation and desire to succeed in higher education but may not have shown success on their high school transcripts and/or SAT scores. Minimal admission requirements must be met by the students.

Learning Resources Center (Library)

The Learning Resources Center is comprised of the College's academic library and communications media services. Through the unification of these services the LRC is able to provide students and faculty with a comprehensive range of instructional support services. Its three floors contain 120,000 square feet devoted to library materials, classrooms, media distribution and production facilities, faculty and administrative offices, meeting rooms, WSCW - the campus Radio Station, and related functions.

The Learning Resources Center has variable hours. When classes are in session the LRC is generally open:

Monday - Thursday	8 AM - 10 PM
Friday	8 AM - 5 PM
Saturday	10 AM - 6 PM
Sunday	1 PM - 9 PM

Specific hours are posted on all LRC doors.

Borrowing

Your current College I.D. Card is required to borrow materials. The length of time any item may circulate can be determined by checking at the Circulation Desk at the second floor lobby. The date the item is due is stamped when you borrow the material. A fine of $.05 per day is charged for each day the item is not returned. Lost materials are assessed at the current cost of the item, plus a handling fee. Your borrowing privileges may be suspended if you do not follow the rules.

Communication Services

Provides a comprehensive program of audio-visual equipment distribution, graphic and pringing services, media production services, and rental services available to the students, (a nominal fee to cover the cost of supplies). Many opportunities are provided to students to work in the LRC through the College's work-study program. Volunteers are gladly accepted.

Library Services

The LRC maintains a collection of over 140,000 books, 800 current periodicals, non-print materials, microfilm and microfiche. The book collection encompasses much of the second and third floors. The second floor contains that portion of the collection classified A-N (Library of Congress system); a centralized reference collection; a periodical and newspaper section; photocopiers; extensive study and reading areas; Instructional Material Services (Non-print); and the Circulation Department. The third floor contains the classifications P-Z (Library of Congress system); two special collections (the Children's Library and the Educational Resources Library); and the College's Computer Center. The third floor also contains the Information Services Department and the AID/LRC Skills Center. This Center provides opportunities for the improvement of the basic skills in Reading, Mathematics, Science, and Writing.

Reserve Materials

Faculty members frequently place books, audio tapes and other materials for use in assignments on reserve at the Circulation Desk. These items are normally for use in the LRC, although some may circulate for short periods of time. A fine of $.25 an hour is charged for over-due material.

Special Programs

The LRC has many special programs which take place within the building. They are posted on various college bulletin boards.

The campus student-operated radio station, WSCW, maintains its studios and offices on the first floor. It serves the dormitories and other campus locations with a broad range of programming.

The Learning Resources Center is an inviting and comfortable place in which to work, study, or just relax. Look around! You'll find a (color) television studio, a radio station, books, newspapers, and very much more.

Worcester State College Child Care Center

The Education Department operates two child centers for children from 3-5 years old. The Center at 102 Chicopee Street is basically for three-year old children

who benefit from a home-like atmosphere. The Center at the Gym Building (G-22) accommodates the four- and five-year old child and resembles an open kindergarten class. The main objective of both Centers is to provide an educationally-enriched environment to meet the needs of "the whole child."

Insurance

The Student Health/Accident Insurance Plan provides 24-hour coverage anywhere in the world for the twelve-month period beginning September 1. This Plan is optional for all students. Detailed information on the College plan is available from the Vice President, Student Services.

The College does not carry insurance which will compensate students or their families for losses suffered on campus because of fire, theft, water damage, etc. It is advisable to check the extent of current home insurance or seek coverage through a special policy.

Academic Development Program

An Academic Development Program is available to help strengthen those skills most essential to effective learning both in college and throughout life. The program is based on the College's commitment to provide students with every opportunity to correct deficiencies and to build upon strengths they may have. This assistance is provided through specialized courses in English, Mathematics, Reading, Laboratory Assistance in Reading and Writing, as well as tutorial assistance. Students who wish to participate in any aspect of the Academic Development Program should consult with their faculty advisor or the Coordinator of the Program for further information.

COURSES

Students may enroll in the following courses through regular registration procedures.

EDUCATION 100 — an intensive review of basic communication skills, chiefly those of reading and writing.

MATHEMATICS 100 — provides students with the opportunity to improve arithmetic skills, elementary algebra.

LABORATORIES

Students may enroll in the following laboratory programs by consulting with the directors of the program.

READING LABORATORY — The College Reading Laboratory offers its services for the improvement of reading.

WRITING LABORATORY — The Writing Center offers individualized instruction in writing.

TUTORIAL ASSISTANCE — available as part of the program.

Orientation

An Orientation Program is held for incoming undergraduates during registration periods. Students are advised on their academic programs and are given opportunities to meet with each other in informal settings. Through discussion groups, campus tours, social activities and the like, new students are exposed to the wide range of persons, activities and resources of the College.

THE UNDERGRADUATE COLLEGE

Admissions*

The basic aim of admissions requirements is to assure the selection of students who have demonstrated the ability and promise necessary for success in college studies. Consideration is given to applicants regardless of their race, religion or national origin.

Freshmen Admissions

All Freshmen accepted for admissions are admitted to the College and not to a particular major. Individual consideration of each candidate is the rule. Applicants must supply the following:

1. Proof of graduation from an accredited high school (or equivalent preparation). You must supply an official high school transcript including at least the first marking period of your senior year.
2. Completion of the College Board Scholastic Aptitude Test.
3. Completion of the College Board Student Descriptive Questionnaire.
4. Completion of the Systems Application Form citing Worcester State College as one of your choices.
5. Payment of an Application Fee ($18.00, by check only).

Prospective students are encouraged to write for appointments and visit the college.

If you are a high school student in the Massachusetts area you can get an Application Packet from your counselor. Others should request the packet from the Admissions Office and for application deadlines. Candidates are notified of their acceptance over a period of months, beginning about January 15.

Advanced Placement

The Advanced Placement Program of the College Entrance Examination Board is available. An applicant must arrange to have the Advanced Placement scores sent to each college to which he is applying. If you are accepted, you are encouraged to take the College Level Examination Program (CLEP) tests, for advanced standing for credit.

Candidate Reply Date Option

If you are accepted at Worcester State College you must do one of the following within 20 days of the receipt of your letter of acceptance.

1. Inform the College that you accept the offer of admission and pay all necessary deposits;
2. Notify the College that you decline acceptance;
3. Notify the College in writing of your desire to delay reapplying to the offer of admission until a time on or before the Candidate Reply Date of May I.

However, if you are accepted and offered residence hall accommodations, your space in the dormitory cannot be guaranteed for more than 30 days from the date of your receipt of the letter of acceptance. If you do not take one of the above options within one month, the offer of admssions will be automatically withdrawn.

Transfer Admissions

Your transcript from your previous college will be the primary factor in determining acceptance to the College. You must supply an official transcript of all courses taken at all other institutions, and you must have successfully completed at least one semester at an approved college.

The regular application form must be completed and the $18.00 application fee must be paid.

All transfer students who have paid the $50.00 tuition deposit will be interviewed for credit evaluation and pre-registration.

To quality for a degree, transfer students must complete thirty credit hours at the College. Credits earned elsewhere must be evaluated in terms of the College curriculum. In general, you can expect credit to be allowed for all successfully completed courses taken at an accredited college.

Division of State College's Transfer Policy

The Massachusetts State College System maintains flexibility in the transfer of qualified students into other state colleges. These are the guidelines and priorities:

1. Applications for transfer to any college in the Massachusetts State College System will be evaluated for admission on the basis of their college academic record.

2. The College will accept credits of a D (or better) earned in equal or comparable courses from the other state colleges. (Maintenance of a C average does not insure transfer to a state college).

3. Whenever possible, degree credit will be granted for course work completed at Massachusetts institutions of public higher education. Courses which do not fit the degree program may be counted as fulfilling the open elective requirements of the four-year curriculum. The transfer student will be required to meet the same degree requirements of all other students.

4. Honors courses, programs of independent study, or Advanced Placement and College Level Examination Program (CLEP) advanced standing credit earned at another Massachusetts institution of public higher educaion will be accepted at any state college.

5. Whenever feasible, the state colleges will not institute highly specialized courses needed for the degree program prior to the junior year.

6. A student must successfully complete at least one year as a full-time student to receive a baccalaureate degree from any state college.

7. The number of transfers accepted by each state college will be determined by existing vacancies and the number of applicants determined eligible under the above guidelines. Among qualified and eligible applicants, priority will be given to transfer students in good standing from within Massachusetts public higher education.

Commonwealth Transfer Compact

Statement of Policy

Throughout public higher education in the Commonwealt an associate degree from any community college signatory to the Commonwealth Transfer Compact will be honored as a unit and construed as: (1) completion of at least 60 hours of work toward a baccalaureate degree; and (2) completion of at least 33 credit hours toward fulfillment of the general education requirements for the baccalaureate degree. All associate-degree holders accepted for transfer under the Compact will be subject to no special requirements beyond those specified as major department and/or graduation requirements for students who originally enrolled in the receiving institution as freshmen.

Worcester State College will honor this policy and adhere to the following:

1. Definition of an associate degree transferable as a unit (contingent upon acceptance for admission) toward a baccalaureate degree as the equivalent of 60 credit hours of undergraduate college-level study, including:

   (a) 6 hours of English/communication;
   (b) 9 hours of behavioral/social sciences;
   (c) 9 hours of humanities/fine arts;
   (d) 9 hours of mathematics/sciences;
   (e) the remaining credits to be on a college level.

2. The awarding, upon acceptance, of the full number of credits earned whil enrolled in the associate-degree program.

3. Continuous review and evaluation of the implementation of this policy and referral to the Massachusetts Transfer Review Council of problems related to student mobility.

Clarifications

1. Students changing programs (e.g., liberal arts to engineering) may expect that more than four semesters will be needed to complete the sequence of a new major.

2. "D" credit will be accepted toward the baccalaureate degree, but a "D" may be used toward a major only for students who enrolled in the four-year institution as freshmen.

3. This unit transfer policy will accomplish the twin objectives of (1) providing unlimited opportunities for instructional and curricular flexibility in the two-year college sector, and (2) assigning to each two-year college full responsibility for meeting standards of equivalence for all programs submitted as transferable.

4. Course credit for transfers from programs not conforming to Compact specifications will be evaluated by the receiving institution according to the applicability of those courses to the baccalaureate program in the student's major.

Tuition and Fees

Day Session

Application and Advance Payment Fees:

A non-refundable undergraduate application fee of $18.00 is required of all applicants. Upon acceptance, a non-refundable advance payment of $50.00 must

be made. This advance payment is credited towards tuition when the student enters the College.

Semester Bill

Students are billed twice a year, before the new semester. Bills are sent to students at their permanent addresses. Payment must be made before the due date which will be specified on the bill. A fee of $5.00 will be charged for late payment.

Tuition

Residents of Massachusetts

Full-time (12 or more credits)-per semester	$422.50
Part-time per credit hour(11 or less credits)	$ 35.50

Non-Residents of Massachusetts

Full-time (12 or more credits)-per semester	$1396.00
Part-time per credit hour(11 or less credits)	$ 116.50

Tuition is not charged to any person 65 years of age or over who has an annual income of less than $12,000. Please submit proof of age.

Required Semester Fees

Library	$10.00
Campus Center Fee	$15.00
Activity Fee	$22.50
Athletic Fee	$26.50
Parking Fee (Annual)	$ 2.00

All charges are subject to change.

A check only is accepted. The cancelled check is the student's receipt. If an insufficient-funds check has been handled by the college in the student's name, only a certified check, bank check, or money order will be accepted as payment in the second instance.

Other Fees

Placement Fee *Required of all seniors.*	$ 5.00
Residence Hall Security Deposit	$50.00
Late Registration Fee	$ 5.00
Commencement Fee (Seniors Only)	$15.00
Student Teaching Fee	$75.00
Orientation Fee	$ 5.00
Educational Service Fee	$20.00

Room and Board

Room (each semester)	$535.00
Board (each semester	$418.00

Refund Policy

Upon official written notification of withdrawal by the student, the following refund policy is applicable. The date and time that the notice is received will be the official date and time of withdrawal.

ALL STUDENT FEES are NON-REFUNDABLE after the first day of classes.

Minimum forfeiture amount $50.00
- 1st week or less 33% Tuition fee charge forfeited
- 2nd week or less 50% Tuition fee charge forfeited
- 3rd week or less 66% Tuition fee charge forfeited
- 4th week or less 100% Tuition fee charge forfeited

Percentages of amount forfeited are rounded to nearest dollar figures.

The week ends on Saturday.

TUITION Refunds are considered only after TOTAL WITHDRAWAL from the College. If the Board of Higher Education scholarship is not received by the Bursar by the 10th week of the semester or the date of the next semester pre-registration, the student will have to pay his own outstanding tuition bill. He will be reimbursed by the College when the Board of Higher Education scholarship money is received. Otherwise, any student with an outstanding balance after the 14th week will be ADMINISTRATIVELY DROPPED — that is, even though classes are attended and courses passed, no markes will be issued to the student. Part-time students' refunds are not initiated until after the academic semester is completed.

Room

Withdrawal Prior to Occupancy — Residents who wish to withdraw from a residence hall prior to occupancy may obtain a refund on room fees provided written notice of intention to withdraw is given to the Director of Housing no later than thirty days before the commencement of either the fall or the spring semester *and* the College is able to fill the vacancy created by the resident's withdrawal.

Withdrawal During Term of Agreement — Residents who wish to withdraw from the residence hall during or at the end of a semester may receive a pro-rata refund on room fees *provided* they notify the Director of Housing in writing prior to their withdrawal *and* the College is able to fill the vacancy created by the resident's withdrawal. Such pro-rata refund shall be determined from the date of occupancy by the resident filling the vacancy.

Fees

Unless stated otherwise, all fees are non-refundalbe and must be paid by all students who are in attendance for all or part of the semester.

Students or former students at any of the state colleges who are listed by the financial office of said state college as having unpaid debts for tuition, room, board, medical or other college related charges where said debts have not been discharged by operation of law or where deferred payments of said debts has not been agreed to by said College will not (1) be issued any diploma to which said students might otherwise be entitled; (2) be permitted to register for any program at any state college for which said students might otherwise be eligible; and (3) be furnished a certified copy of any state college transcript (unless said transcript is needed to obtain any benefits related to service in the United States armed forces) although said students will be entitled, upon written request, to inspect and review uncertified copies of their transcripts.

Financial Aid

All students are encouraged to apply for financial aid in order to meet the cost of their education. Students must be enrolled at least half-time in either an

undergraduate or graduate degree program to receive financial assistance from the College. In considering students for financial assistance, the College places emphasis upon financial need. This need is the amount by which the total costs of college attendance, including reasonable costs of transportation, room and board, and other personal expenses, exceeds the expected family contribution. Each eligible student has equal access to the College's financial aid funds based upon the resources of both the parents and student. The aid from the College will be a supplement to the contribution of the family.

To provide a basis for fair and equitable evaluation in determining financial need, the College is a participating member of the College Scholarship Service (CSS). This organization utilizes a needs analysis system which calculates expected parental and student contributions from income and assets. All students applying for financial assistance must file a Financial Aid Form (FAF) with the College Scholarship Service, Box 2857, Princeton, New Jersey 08541. The FAF may be obtained through any high school guidance office or through the Financial Aid Office. It takes approximately six weeks for CSS to process applications and forward its analysis to the College and other agencies. The Financial Aid Office will then send the applicant a Worcester College Institutional Financial Aid Request Form which must be completed and returned to the College. This Institutional Form must be supported by a copy of the previous year's federal income tax return.

The deadline for submission of all completed forms to the Financial Aid Office for those students entering the Fall Semester is April 15. Applications will be accepted after this date, but the availability of funds for eligible students is not guaranteed. Applications for students entering the Spring Semester is November 15. In order to be considered for renewal funds, candidates must reapply each year, following the same application procedures. Although the amount and type of aid offered may change due to the funds available to the College and to the dictates of program guidelines, applicants will continue to be eligible as long as financial need is demonstrated and the student remains in good academic standing.

Listed below are several federal and state sponsored programs, including grants, loans and jobs, in which the College participates and offers to its students.

Basic Educational Opportunity Grant Program (BEOG):

Administered directly by the federal BEOG Agency to all needy undergraduate students on at least a half-time basis. The amount of the award is based upon the student's eligibility for financial aid, the cost of the College attendance, and the monies available nationally for this program. The BEOG agency responds directly to the applicant with response papers called the Student Eligibility Report (SER). the SER must then be forwarded to the Financial Aid Office for proper calculation.

Individuals who have been awarded BEO Grants may use such grants to take courses through the Division of Graduate and Continuing Education providing that they enroll in a minimum of 2 courses per semester in a program leading to a degree.

Supplemental Educational Opportunity Grant Program (SEOG):

Designed to assist undergraduate students of exceptional financial need who, without this grant, would be unable to continue their education. A SEOG grant is awarded after all other forms of aid have been applied and there still remains an unmet need that presents an unusual and severe financial hardship to the student and family.

The National Direct Student Loan Program (NDSL):

Designed for needy students who are enrolled at least half-time in an undergraduate or graduate academic program and who desire a loan to meet their educational expenses. Repayment of the loan at 3% interest begins 9 months after graduation and may be subject to various deferments and cancellation benefits depending on the vocation of the borrower and completion of his education.

The Massachusetts Higher Education Loan Plan (HELP):

Another source of financial assistance for the education of undergraduate or graduate students but designed to assist middle or upper income families. This particular loan enables a student to borrow directly from a bank, credit union, or savings and loan association, which is willing to make the education loan to the student. The maximum a student may borrow is $2,500 a year and the interest cannot be more than 7 percent. This may vary, however, depending on the availability of funds and the policies of the lending institutions. Students who wish to apply for HELP loans should go directly to their local bank to obtain the necessary application forms. Consequently, the College will receive these completed forms from either the bank or student, and the Financial Aid Office will certify enrollment, college costs, and will recommend a proper loan amount to the lending institution. Many students are eligible for Federal Interest Benefits while participating in this program. If a student qualifies for these benefits, the federal government pays the interest while the student is attending a school in good standing, until repayment begins.

The College Work Study Program (CWSP):

Provides jobs for students who have financial need and who can earn a part of their educational expenses. This program is designed to assist undergraduates and graduate students who are enrolled in at least a part-time program of study. Students are assigned to various departments or agencies on and off the campus, and they are paid at an hourly rate in accordance with campus policies and federal regulations.

Massachusetts Board of Higher Education Scholarship (MBHE):

A $300 stipend at all state colleges, and the awards are designed to assist eligible students with academic proficiency. To apply, simply list the MBHE (0558) as a recipient on the Financial Aid Form (FAF) and then submit the form to Princeton, New Jersey, for processing. The deadline for students applying for Massachusetts Board Scholarships as new applicants is March 1 and for renewal students is April 1 each year. Those students claiming themselves as independent or self-supporting must submit a Massachusetts Independent, Self-Supporting Supplement, a form which is available in the Financial Aid Office.

Alumni Scholarships

The Alumni Association provides scholarships and a limited number of grants-in-aid each year to needy and deserving undergraduate students. Application forms are available during March and April and may be secured in the Office of Financial Aid, Student Services, and Alumni Office.

Merit Scholarships:

Contact the Director of Admissions.

Tuition Waiver Reduction Guidelines

These guidelines will help students most in need to receive the most assistance in counteracting the necessary tuition increases and pending cuts in federal aid.

To be eligible for tuition waiver reductions, a student must:

a. be enrolled as an undergraduate student in courses for which the tuition revenues revert to the state.

b. be a U.S. citizen or eligible non-citizen as defined by the federal guidelines for financial aid eligibility.

c. be a legal resident of Massachusetts.

d. have applied for the Basic Educational Opportunity grant.

e. demonstrate financial need as defined by federal financial aid guidelines.

Massachusetts National Guard Education Scholarship

According to Chapter 33, Section 137, a 50% Tuition Exemption Scholarship is available to any member of the Massachusetts Army or Air National Guard, renewable annually, when proper certificates and credentials are submitted to the Bursar's Office.

Tuition Exemption Scholarships

Massachusetts Vietnam Veteran Scholarship

According to Massachusetts General Law Chapter 601, 1966, to Chapter 842, 1977 Sections 1,2,3, Tuition Exemption Scholarship is available to any eligible veteran whose service is credited to the Commonwealth of Massachusetts who served a minimum time period of 90 days between 8/5/64, and 5/7/75, or who served 180 days between 2/1/55 and 8/4/64, and whose discharge was other than dishonorable. Proper certificates and credentials must be submitted to the Bursar's Office.

Police and Fire Department Education Scholarship

According to the Massachusetts General Law Chapter 73, Section 20, Tution Exemption Scholarship is available to a regular member of the police or fire department of a city or town of Massachusetts. Proper certificates and credentials must be submitted to the Bursar's Office.

Other Scholarships

In order to give recognition and prestige to student achievement on campus, many academic departments, clubs, and campus organizations sponsor scholarships and monetary awards to deserving students. A complete listing may be found in the Student Handbook and further information regarding application procedures may be obtained in the Office of Student Life.

Other Employment Opportunities

Opportunities, which are not federally sponsored, also exist for student employment on campus. Applications for student employment in the Campus Bookstore, Library, dining areas, Campus Security, and the Department of Health, Physical Education & Recreation can be obtained through these individual departments. A large percentage of students earn money in this manner.

Academic Policies

Academic policies are those statements, basic and general, which refer to academic concerns of all students and all faculty throughout the campus. Academic policies are developed through established governance procedures, and have the approval of the Academic Policies Committee, the All College Committee and the President of the College. All students must familiarize themselves with these policies in order to ensure that they are in good academic standing and that they are making necessary progress in their academic programs.

Because these statements of policy are, by their very nature, quite general, the student is advised to consult the college catalog under the sections "Academic Programs" and "Departments" for information on specific programs, departments, and requirements. For information on content, credit and requirements for individual courses, the student should consult course listings in catalog section "Departments." The scope, schedule, grading standards and attendance policy for each individual course are explained on the syllabus, or course outline.

Attendance

All students are expected to attend and participate in all class meetings and laboratory sessions. In the event that illness or some other emergency prevents a student from attending class he should contact the instructor through the Office of Student Services.

Academic Standards

Grades:

The quality of achievement is represented by the following letters:

A, A-	P (Pass)
B+, B, B-	F (Fail)
C+, C, C-	W (Withdraw)
D+, D	WP (Withdrawn with a passing mark)
E (Failure	WF (Withdrawn with a failing mark)
INC (Incomplete)	

Incomplete (INC) Grades:

An incomplete grade is awarded as an extension of a specified period of time beyond the end of the semester. The professor may give an Incomplete grade only when at least eighty per cent of the course has been already completed, and a valid reason exists for inability to complete all work before the end of the semester. The student must submit in writing his plan for completing the unfinished work to the instructor prior to the last class meeting. All Incompletes must be resolved within eight weeks after the beginning of the next semester. Otherwise, the "INC" grade automatically becomes an "E" (Failure) and is so recorded in the student's permanent record.

Withdrawal from Courses

W, WP, WF: A student may withdraw from a course at any point up to one week after Warnings have been issued. Choosing to withdraw is a serious matter which may affect a student's class standing, full-time status, etc. A withdrawal for extenuating circumstances may be granted by the appropriate academic dean after the six week period. Therefore, a student considering such a step should seek advice from the instructor, his faculty advisor or the staff of the Academic Advising Office of the College in order to consider all the alternatives and possible effects. In order to withdraw officially from a course, a student must obtain a Course Withdrawal Form from the Registrar's Office and follow the prescribed steps. Mere non-attendance at class does not constitute official withdrawal and may result in a failing rade. If a student withdraws from a course before the mid-semester "F" Warnings are issued, a "W" is given. After "F" Warnings are issued, a student may receive either a "W" (Withdrawn), "WP" (Withdrawn with a passing grade), "WF" (Withdrawn with a failing grade), according to the level of achievement at the time of withdrawal. All "W" grades - "W", "WP", "WF" - are permanently recorded on the student's transcript. No credit is earned for a "W", "WP", or "WF" grade nor is the "W", "WP", or "WF" computed in the student's Q.P.A. (See example below). A student who withdraws from all courses will be considered as having withdrawn from the College, and must file a formal intent to withdraw with the Office of the Vice President of Student Services.

Withdrawal Policy

Permanent: "W", "WP", "WF" are the grades used at the time of withdrawal. No computation in quality point averages will be recorded on the student's permanent record. Should a person decide to return to WSC after having permanently withdrawn, the individual must file for admittance as a new student.

Leave of Absence: To preserve his position in the College, the student requesting a leave of absence must return on the agreed-upon date. An extension of no more than one semester may be granted. Failure to return on the specified date will necessitate filing for admission as a new student if the student desires to return. "W", "WP", "WF" are the grades used at the time of withdrawal. No computation in quality point averages will be recorded on the student's permanent record. Inquiries regarding this procedure may be made at the Vice President of Student Services Office.

Extenuating Circumstances: Under certain circumstances and at the discretion of the Vice President of Student Services, a student may be granted a temporary leave of absence.

All withdrawals from the College must be filed with the Vice President of Student Services.

Pass/Fail Policy

Full-time students (those enrolled for twelve or more credits) may select no more than two courses per semester on a pass/fail basis. The courses may not be those required to complete major or minor requirements. The foundation courses may not be taken on a pass/fail basis. A student must notify the Registrar's Office at least six weeks prior to the last scheduled day of classes if he intends to take a course on a pass/fail basis. Similarly, a student deciding to change from pass/fail status to standard grading must notify the Registrar's Office by the same deadline, six weeks before the final day of classes. No more than twenty-four credits may be taken on pass/fail basis for a baccalaureate degree. Pass/fail courses are not computed in the quality point average (see Q.P.A.).

Credits

The amount of academic credit to be earned in a course is counted in units called semester hours. The number of semester hours carried by a particular course is indicated in the catalog course listing. Twelve to nineteen semester hours per semester are considered a full-time schedule of study. Special permission is needed to enroll in more than nineteen hours; forms are available from the Office of Undergraduate Dean.

Quality Points

Each letter grade is equivalent to a number of quality points according to the following scale:

A	=	4.0	C+	=	2.3
A[1]	=	3.7	C	=	2.0
B+	=	3.3	C-	=	1.7
B	=	3.0	D+	=	1.2
B-	=	2.7	D	=	1.0
			E	=	0

The following marks do not receive any quality points: "P", "F", "INC", "W", "WP" and "WF". Courses receiving such marks are not computed in the quality point average.

Quality Point Average (Q.P.A.)

The Quality Point Average or Q.P.A. is determined by multiplying the number of semester hours (or credits) attempted by the number of quality points for each grade. The total number of quality points is then divided by the total number of hours attempted. If a student repeats a course, only the better of the two grades will be computed in the cumulative Q.P.A. although both grades will be recorded on the permanent transcript. (See example).

Cumulative Quality Point Average (Q.P.A.)

The Cumulative Quality Point Average reflects the entire history of the student's college achievement while matriculated at Worcester State College and is computed by averaging the total of all credits attempted by all quality points earned over all semesters. The Cumulative Point Average is a major factor in determining class membership, academic standing, and eligibility for academic honors.

(See example below.)

Examples of the Quality Point Average and the Cumulative Point Average

Example of the Quality Point Average for one semester:

	S.Hours	Grade	Quality Points	
Course 1	3	B	9	
Course 2	3	C+	6.9	
Course 3	3	B	9	
Course 4	3	A-	11.1	
Course 5	3*	P	0	
	15*/12		36	12 ÷ 36 = Q.P.A. Semester I

Example of the Cumulative Quality Point Average:

Course 1	3	B	9	
Course 2	3	C+	6.9	
Course 3	3	B	9	
Course 4	3	A-	11.1	
Course 5	3*	P	0	
	15*/12		36	12 ÷ 36 = Q.P.A. Semester II

Cumulative Quality Point

	24	72	24 ÷ 72 = 3.0 Cumulative Quality Point Average

N.B. Grades earned prior to the student's matriculation at Worcester State College are not averaged in the Cumulative Q.P.A.

Academic Honors

Honors List

Full-time Students

Each semester the names of all students who have enrolled for a minimum of twelve grade credits (i.e., not for a pass/fail grade) and have achieved a Q.P.A. of at least 3.3 appear on the Honors List. Transcripts of Honors List students record the fact of this distinction.

Part-time Students

Students must be matriculated in either the day or evening division, must have an academic load of a minimum of six (6) credit hours not on a pass/fail basis. The criteria for honors will be the same as those applied to full-time students in the day division. All lists and publications of names of students will clearly indicate their part-time status (six hours) and that they are matriculated students.

Graduation Honors

Students graduating with honors must attain the following cummulative Q.P.A. based on all credits earned at Worcester State College (minimum of sixty-four hours for transfer students):

Cum Laude	(with honor:	3.3 - 3.59)
Magna Cum Laude	(with great honor:	3.6 - 3.79)
Summa Cum Laude	(with highest honor:	3.8 - 4.0)

Selecting Courses and Programs

(See section "Academic Programs" for exact information on degrees, majors, and minors. Also see "Department Listings" for particular requirements and opportunities within each department.)

Major

After admission to the college and prior to the beginning of the junior year, a student applies to a specific department in which he wishes to major. In general, a major is completed by earning not less than thirty (30) and not more than forty-eight (48) credits with a minimum of a 2.0 Q.P.A. in a department(s). All courses counted towards a major degree are selected under the direction, and with the approval, of the student's faculty advisor in the major department.

A department may establish standards for admission of enrolled students into major and minor programs. These standards are not based on any Q.P.A. They may be based on grades earned in prerequisite courses, demonstration of special knowledge and skills through tests, portfolios, interviews and other relevant criteria. The department must have standards approved by the All College Committee. Once approved they are published in the undergraduate catalog. A minimum Q.P.A. at variance with college policy may not be used as a standard for retention as a major or minor student within a department.

Minor

Although not required for graduation, a minor field may be completed by earning between eighteen (18) and thirty (30) credits in a department other than one's major. The courses are selected with the approval of a faculty advisor in the minor department.

Guidelines for Independent Study

The following statements are recommended to serve as college wide guidelines and requirements for all courses designated Independent Study at Worcester State College.

1. It is generally believed that not all students may profit from Independent Study; therefore, it is suggested that this course be recommended primarily to students of demonstrated interest and ability in the area of the Independent Study.

2. With this in mind, it is recommended that any student desiring to conduct an inquiry or project in a field of interest by Independent Study must select an instructor and with his advice prepare a written contract containing the basic idea and direction of the study, which should be submitted to the departmental curriculum committee within the first week of the semester (see No. 1).

3. The departmental curriculum committee together with the instructor will determine whether or not the student will be allowed to conduct this study after evaluating its merits.

4. Based on the instructor's recommendation, the departmental curriculum committee will also determine the number of credits to be given for the study. One to four hours of credit may be granted for one semester of Independent Study.

5. A copy of the written contract must be filed with the department chairman, the major advisor and the instructor.

6. A written report of the accomplishments must be made during the semester of study.

7. No undersubscribed courses can be given as Independent Study.

8. The student's transcript should indicate the subject of the student's Independent Study project; e.g. SE510 Independent Study in Secondary Education - A mini-course in the American Revolution.

9. A student must declare Independent Study status (i.e., the number of semester hours to be earned) at registration time, but not later than the add-drop deadline during which the study occurs.

Academic Advising

A student is assigned a faculty member from his major department to serve as advisor in the selection of courses,changes in schedule, and all other academic matters. Undeclared majors, students who have not yet decided upon a field of study, are assigned faculty advisors by the Office of Academic Advising. Students enrolled through the Division of Graduate and Continuing Education are assigned academic advisors through that office.

Role of the Academic Advisor

The student meets with his academic advisor during the regularly scheduled advising period each semester, at which time academic progress is reviewed and courses are selected for the coming semester. During the registration period the advisor signs the registration form which the student presents in order to enroll in classes. At other times during the semester, the advisor's signature is necessary to complete forms for adding or dropping courses, or for withdrawing from a course or from college. The advisor is kept informed by the Registrar of the grades and quality points earned by each of his student advisees. The advisor is also informed by the Vice President of Student Services in the event that the student withdraws when the college is not in session. At any time during the semester the student should contact his advisor whenever information or an opinion on an academic matter is needed.

Adding or Dropping a Course After the Semester Begins

Students add/drop courses within the first two weeks of the semester. The forms are available at the Registrar's Office. After the add/drop period has passed, students wishing to drop a course must follow the procedure for withdrawal.

Changing Major, Minor, Degree or Class

A student wishing to change major or minor field of study, degree designation or stated year of graduation meets with his advisor during the academic year. No request for changing major or minor field of study or degree designation will be accepted during the scheduled advising period prior to registration. In the case of changing a field of study, the student also meets with the chairperson of the prospective major department. Forms for these procedures are available at the Office of Academic Advising.

Academic Standing

Membership in a class is determined by the number of semester hours completed. The following guidelines show hours required for each class:

Class	1st Semester	2nd Semester
Freshman	0 - 15	16 - 29
Sophomore	30 - 45	46 - 59
Junior	60 - 79	79 - 95
Senior	96 - 112	113 - 128

These standards determine one's mark regarding registration priorities and participation in class events. A student is required to maintain minimum Q.P.A. for proper academic standing according to his class membership. The following guidelines indicate the cumulative Q.P.A. required for advancement through the academic years:

	Minimum Q.P.A.
1.5	to enter sophomore year
1.75	to enter junior year
2.0	to enter senior year
2.0	to graduate

Probationary Contract:

A student who fails to maintain the minimum Q.P.A. for his class standing is required to meet with the Associate Dean in the Office of Academic Advising for the purpose of developing a Probationary Contract. Throughout the following semester, it is the student's responsibility to schedule periodic meetings for reviewing and assessing academic improvement. The Probationary Contract oridinarily restricts the number of credits for which a student may enroll. The number of hours of employment, and the number of extra-curricular activities. A student who does not successfully complete the terms of the Probationary Contract will be asked to withdraw from the College.

Studies Outside the Regular Day Program

(See also "Academic Programs" for additional information on off-campus opportunities).

Faculty advisors must approve all courses taken off-campus or through the Worcester State College Division of Continuing and Graduate Education

Worcester Consortium for Higher Education

Ten colleges of the Central Massachusetts area form the Worcester Consortium for Higher Education. The colleges are:

Anna Marie College
Assumption College
Becker Junior College
Central New England College
Clark University
College of the Holy Cross
Quinsigamond Community College
University of Massachusetts Medical Center
Worcester Polytechnic Institute
Worcester State College

In addition to cultural activities, interlibrary programs and other opportunities, the Consortium provides a cross-registration service whereby full-time day students of member colleges may register at no additional cost for a limited number of courses at other campuses and receive academic credit. Admission into Consortium classes is on the basis of available spaces. For further information contact the Worcester State College Registrar.

College Academic Program Sharing (CAPS)

A student enrolled at any of the nine state colleges which comprise the Massachusetts State College System may take up to thirty (30) semester hours of credit at any other state college in the system without going through formal registration procedures. Credits are automatically transferred to Worcester State College, and the student pays no additional tuition or fees. For further information, contact the Worcester State College Registrar.

Academic Programs

Bachelor of Arts
Bachelor of Science

General Requirements

Credit Hours: Every candidate for the Bachelor of Arts or Bachelor of Science degree must complete 128 semester hours of credit.

Residence: The usual period of residence and study required of a student who enters as a Freshman is four years. Students must successfully complete one year at WSC (minimum of 30 credit hours) in order to graduate. Transfer credit within the major must be approved by the the major department. The major department will determine course and credit requirements and students must meet the degree requirements of the class with which they plan to graduate.

Graduation Grade: A grade point of average of 2.0 or better must be attained in courses in the major field. AN AVERAGE OF 2.0 MUST BE ATTAINED FOR ALL COURSES TO QUALITY FOR GRADUATION.

Course Load: MINIMUM — A full time student is required to register for courses totaling a minimum of 12 hours per semester.

MAXIMUM — A student may elect up to 19.0 semester hours without special permission. Official permission is required from the student's advisor to elect more than 19.0 semester hours per semester.

Curricular Requirements: The particular courses in which credits may be earned are selected by the student and his advisor. Courses should be selected to meet the student's needs within a general framework that is designed to insure a certain degree of breadth and depth in his intellectual development. The student will have the counsel of his faculty advisor during and after the pre-registration period and throughout his college career. The required course of study combines General Foundation, Distribution, Major, and optional Minor program, and Elective Courses.

— ALL STUDENTS ARE REQUIRED TO COMPLETE —

General Foundation Requirements

I. The following courses should be completed during the student's freshmen year at the college:

   a) ENGLISH COMPOSITION — Six credits (unless the English Department grants an exemption).

   b) PHYSICAL EDUCATION — Either three one-credit Physical Education activity courses or one three-credit Health or Physical Education course. Veterans are exempt from this requirement.

   c) BASIC MATHEMATICS — Three credits (unless the Mathematics Department grants an exemption).

II. Development Reading: Freshmen whose admission tests (SAT and others) indicate a need for developmental reading and participate in the Developmental Reading Skills Program.

III. Prior to graduation, all students must have completed a course in which constitutions of both the United States and Massachusetts are studied (Chapter 73. Section 2A. General Laws, Commonwealth of Massachusetts).

Distribution

The purpose of these distribution requirements is to provide the student with a general knowledge of the content and methods of the various fields included in a liberal education. Students may elect courses to meet requirements in any year of their undergraduate program. The requirements must be fulfilled by a minimum of:

- twelve credit hours in Group I;
- twelve credit hours in Group II;
- nine credit hours in Group III;
- twelve credit hours in Group IV.

In satisfying these distribution requirements the following restrictions must be observed:

a) no course from within a student's major department may be used to satisfy any distribution requirements;

b) no student may take more than six credit hours in any given department within a group;

c) each student must select at least one three-credit laboratory science course from Group IV;

d) no course used to satisfy general foundation requirements may be used to satisfy distribution requirements.

GROUP I. Humanities (12 credit hours minimum)

English
Philosophy
History
Foreign Languages
Media

Group II. Social Sciences (12 credit hours minimum)

Economics
Education
Geography
Political Science
Psychology
Sociology

GROUP III. Fine Arts (9 credit hours minimum)

Art
Theatre
Music
Photography

GROUP IV. Natural Sciences and Mathematics (12 credit hours minimum)

Biology
Chemistry
Geology & Physical Geography
Natural Science & Physics
Mathematics

Major-Minor Program

The student is given the opportunity to study one subject, the major, and a second optional subject, the minor, in an increasingly effective and scholarly way. The object of this concentration requirement is to provide the student with a project of integrated study, leading him to the satisfaction of having made progress in a well-developed field of learning. A double major is also allowed.

The student chooses his major field of intellectual interest in one of the academic disciplines offered. The chairman of that department will assign a faculty member to assist and advise the student in designing a comprehensive program of studies. The program must include:

1. At least 30 credit hours in the major field(may not exceed 48 hours in a single department) except by permission of that department. The major shall be outlined and certified by the major departments.

2. Should a student select to have a minor, a minimum of 18 credit hours in a minor subject area is required. Approval by the major advisor is also required. The minor may not exceed 24 credit hours except by official permission.

Elective Courses

Other courses to complete the 128 hours for graduation may be selected without restriction. The student, however, should be guided in his choice by the purpose of promoting breadth as well as depth in his intellectual development. The purpose of elective courses is to permit the further pursuit of advanced work and to encourage exploration in diverse fields of knowledge.

Bachelor of Science In Education

General Requirements

Credit Hours: Every Bachelor of Science degree in Education (Elementary) candidate must earn 128 semester hours of credit before graduation.

Curricular Requirements:

General Foundation Requirements for the Bachelor of Science in Education are the same as for the Bachelor of Arts degree and the Bachelor of Science degree.

Baccalaureate Distribution Requirements

Each student is required to complete 32 semester hours in the following disciplines:

English/Literature	(6 semester hours)
Speech	(2 semester hours)
Psychology	(6 semester hours)
Music/Art	(3 semester hours)
Mathematics	(3 semester hours)
Laboratory Sciences	(6 semester hours)
Social-Science/Philosophy	(6 semester hours)

Professional Education Requirements

Students preparing to teach in the elementary schools are required to complete the professional sequence listed in the four-year curriculum plan which is found in sections under Departments, Programs and Course Descriptions. A minimum of 39 semester hours must be earned in this area. Students are not to exceed 60 semester hours in Education.

Academic Minor

Every Elementary Education major must select a minimum of elective courses totaling 18 semester hours in an academic field in addition to those listed above in the Baccalaureate Distribution Requirements.

Specialized Professional Education

Students must take 12 semester hours in specialized fields which are described in the sections under Departments, Programs, and course descriptions.

Minimal Curricular Requirements

General Foundations	(8 semester hours)
Professional Educational Courses	(39 semester hours)
General Distribution Electives	(32 semester hours)
Academic Minor	)18 semester hours)
Specialized Professional Education	(12 semester hours)
Undesigned Electives	(19 semester hours)

TOTAL: 128 semester hours

Choice of Baccalaureate Degree (B.A. or B.S.)

Students may receive either a Bachelor of Arts or Bachelor of Science while majoring in any subject, with the exception of Elementary Education.

Each department will specify the requirements in its major and ancillary fields. Departments are free to structure requirements to meet either or both degree programs provided such requirements are consistant with college-wide requirements for graduation.

Determination of Degree

The two areas of concentration under the baccalaureate degree programs are: Humanities and Sciences. The subject areas normally associated with the two designations are:

HUMANITIES:

Art
Drama
English
Foreign Language
History
Media
Music
Philosophy

SCIENCES:

Biology
Chemistry
Communication Disorders
Computer Sciences
Economics
Education
Geography
Management
Mathematics
Natural Science
Nursing
Physical Education
Political Science
Psychology
Sociology
Urban Studies

Designation of degree will be made by totalling elective credits* in the Humanities and Sciences concentrations. If a majority of elective credits were awarded in the Humanities, the student will be granted a Bachelor of Arts Degree; if a majority of the elective credits were awarded in the Sciences, the student will be granted a Bachelor of Science Degree.

*ELECTIVE CREDITS are defined as any credits above those required for completion of major (major and ancillary courses), and as listed under General Foundations.

Academic Counseling

An academic Advising and Information Center is available to assist students in planning their academic programs, in choosing their major or in securing academic

counseling in specific problems. Since the College places the primary responsibility for educational progress on the student, it seeks to provide students with many sources of professional assistance. Faculty counselors, departmental advisors and the college professional counselors are available to students with academic problems. This service recognizes the difficulty students may encounter in adjusting to the pace of learning in college with its different type of assignments and demands. It wishes to provide an opportunity for the student who is seeking to address his problems to know more about himself, his aptitudes and special interests, while at the same time obtaining professional assistance.

Although the student is free to choose his own program of studies and will make the necessary decisions regarding all academic matters, students are urged to work cooperatively and in a spirit of mutual understanding with their faculty advisors. It is the advisor's responsibility to assist and advise the student, working with and for the best possible job of meeting the College's requirements and the student's own best interest.

The Academic Advising Program is an integral part of the educational process at the College. Students are assigned advisors by the Coordinator of Academic Advising in consultation with each department. Whenever possible, the assignment is based upon a mutual interest of the student and faculty member. If it is desirable for the student to change his advisor at any time, appropriate action may be initiated through the Associate Undergraduate Dean by either the student or the advisor.

The advisor will inform each of his advisees of the available academic alternatives and will make suggestions for particular study programs. The faculty advisor should be consulted frequently during the academic year as well as at pre-registration and registration periods. If the advising program is to be successful, students should feel free to consult their advisor whenever they wish. An appointment is recommended and if the advisor is not in his office, a note can be left for him in the mailroom on the first floor of the Administration Building.

Students who do not choose a major area of study until the end of their freshman or sophomore year are unlikely to have an advisor. The centralized Advising Center is located in the Administration Building, Room A210, staffed from 9:30 A.M. to 4:30 P.M. Students seeking immediate information are urged to visit this Center. Advising for evening students is also provided through the Continuing Education Division, Room S112.

Credit by Examination

WSC provides the opportunity to students to challenge discipline areas for advanced standing (credit). The following is a list of Credit by Examination tests:

These standardized examinations offered on campus through Educational Testing Services offer college credit in two categories: General Exams which include

English, Humanities, Mathematics, Social Sciences and/or Natural Sciences, and subject-content areas. Further information and applications are available through the Counseling Center, in the Campus Center, Room 280.

Advanced Placement Programs

Administered by CEEB, these tests may be taken by an incoming Freshman for potential credit; they are usually administered together with the SAT.

Departmental Challenge Examination

Many departments at WSC offer a student the opportunity to request and take demartment-made examinations for credit. Contact the appropriate Department Chairman.

National League of Nursing Examinations (NLN)

Administered to potential candidates for the Upper Division in Nursing. The examination also may be taken for advanced study. Contact the Chairman, Nursing Department, for further information.

American Chemical Society

Students may challenge Chemistry for the Allied Health Professions by contacting the Chemistry Department, New York Board of Regents. In some cases, credit can be awarded for these exams.

Internships and Professional Experiences

An internship is a form of experiential learning that can be described as field experience education providing a student the opportunity to put theory into action. An internship may be taken for academic credit or non-credit. If credit is to be granted, the internship is to be monitored and evaluated by the appropriate college department. The internship can be structured according to one of many models:

1. PROFESSIONAL TRAINING — A student serves as an apprentice carrying out assigned tasks under the supervision of a professional in the field of education, nursing, communication disorders, school libraries, or social work in order to gain the skills and use the knowledge requisite to the profession.

2. WORK EXPERIENCE — Under the sponsorship of a faculty member, a student integrates classroom experience in business, governmental, or service-type work situations in the community.

3. FIELD RESEARCH — A student undertakes an independent or group project in business, government or community situation applying the principles and concepts of an academic discipline under the supervision of a faculty member.

4. CAREER EXPLORATION — A student is assigned to a supervised placement in service, develop employment related skills and to analyze career possibilities of that placement.

5. SOCIAL POLITICAL ACTION — A student is assigned to a placement under faculty sponsorship which gives him the opportunity to be directly engaged in working for social change either through community organizing, action research project, or work with organizations seeking to bring about societal change.

6. SERVICE LEARNING — Under the supervision of a faculty sponsor, a student is given the opportunity to integrate the accomplishment of a task which meets human needs with conscious educational growth.

A student should know what he wants from the internships so the experience can be structured to meet his goals.

Each student must be actively involved in the development of the internship placement; i.e., develop a resume, interview for placements, expedite any correspondence that may be necessary. It is helpful if the student contacts the faculty sponsor the semester prior to the internship.

The internship contract sets out the responsibilities of each party. This allows each participant to know what is going to happen and his own specific role in the educational field experience. The purpose is to develop an articulation process; each program is individualized to accomodate the personal goals of the student, the academic goals of department and the needs of the off-campus organization.

Cooperative Education

The Massaachusetts State College System has formed a partnership with selected federal agencies to provide a Cooperative Education Program for a limited number of state college students interested in careers with the federal government. A student participating in this program may be eligible to enter a career position in a federal agency without taking the competitive examination. Interested students should be United States citizens, maintain a 2.5 Q.P.A., be eligible for federal employment at the G-5 level upon graduation in order to be considered for this program. The program involves two full-time paid work experiences in a federal agency separated by an on-campus full-time academic semester. Two students will be assigned to one agency position for alternating periods of work and study thereby providing the agency with 52 week coverage for the position. A basic plan would be:

Period	Student A	Student B
July - Dec	Agency	Campus
Jan - June	Campus	Agency
July - Dec.	Agency	Campus
Jan. - May	Campus	Agency
	Graduation	Graduation

Contract Learning Program

Enables the College juniors and seniors to obtain academic credit for non-classroom learning experiences. The experience must be a learning one for the student and must be related to an academic discipline. Experiences for which students might receive credit include among others: Counseling; newspaper work; instructional assistance; TV production; social work; environmental engineering; urban legal services; museum work; textile testing; municipal government study; purchasing; tutoring; quality control; photography; personnel work; business management; accounting; oyster farming; and early childhood care. The experience may be in connection with a job, volunteer work or special project, and does not have to be related to a student's major. It must be done, however, in conjunction with a business or organization (referred to as an outside agency). Students may choose their own outside agency.

A faculty member of the student's choice, called a faculty sponsor, and the academic department must approve the project.

The student enters into an agreement with an outside agency, faculty sponsor and the department to participate in a proposed learning experience for a specified number of credits. The faculty sponsor, after consulting at the end of the semester with the student's immediate supervisor from the outside agency, evaluates the student's achievement on the basis of the terms of the contract (agreement). Upon the successful completion of the contract, the student is granted the specified credits (no grade) which are applied toward the total credit hours required for graduation. The credits are in lieu of credit for elective courses, and cannot be substituted for specific course requirements.

A maximum of 12 credit hours may be earned through Contract Learning. Any combination of contract credits up to the maximum may be taken. The amount of time involved depends on the nature of the experience and the number of credits to be earned. It is an opportunity to apply theory to actual working situations and to gain more information about a field or career.

Contract Learning registration forms for Summer Sessions, Fall Semester and Spring Semester are available from the office of the Associate Academic Dean.

New England Regional Student Program

The College participates in a regional cooperative program administered by the New England Board of Higher Education. The program - the New England

Regional Student Program - permits qualified New England residents to study with in-state tuition and admissions privileges in certain programs at any of the state universities, state colleges, two-year colleges and technical institutes.

The program's purpose is to expand higher education opportunities for New England residents by making available on an equal basis those courses not commonly offered at every institution.

Information about the program can be obtained from the College Admissions Office, from any guidance counselor, or from the New England Board of Higher Education, 68 Walnut Road, Wenham, Massachusetts 01984.

Marine Sciences Program

The Massachusetts Maritime Academy, in cooperation with other Massachusetts State Colleges and the Cape Cod Community College, offers a series of college-level, project-oriented courses in the Marine Sciences at its Buzzard Bay campus. This approach takes advantage of the diverse capabilities and interests of the several college facilities in seeking to complement related courses at participating colleges. Courses may be credited toward programs in biology, geology, chemistry, physics, geography,environmental sciences and education at participating colleges. The oldest, continuously operating Maritime Academy in the United States offers the newest buildings and equipment for marine science programs, including classrooms, "wet" and conventional lab, airconditioned library, specialized marine equipment, small craft, vehicles, dormitories, dining hall and extensive recreational facilities.

For further information regarding admission and expenses, please contact Dr. Paul Holle, Worcester State College, Worcester.

Pre-Medical/Pre-Dental Program

Worcester State College offers a program for students who are interested in applying to a Medical or Dental School.

A student who is interested in medicine, dentistry, veterinary medicine, optometry, podiatry, or osteopathy should consult both his major advisor and a member of the Pre-Medical and Pre-Dental Advisory Committee.

Reserve Officer Training Corps

Air Force

Although WSC does not have an ROTC Program on campus, it does offer, with the cooperation of the College of Holy Cross, the two-year Air Force Reserve

Officer's Training (ROTC) Program during the Junior and Serior years. All students enrolled in the last two years of the four-year program receive a tax-free stipend of $2,000. In addition, WSC students can apply for Air Force scholarships to cover all tuition and textbook costs.

The program consists of one three-hour course each semester, one Corps Training period per week and attendance at a six-week training camp prior to the Junior year.

The basic qualifications for enrollment in the AFROTC program require a student to be a citizen of the United States, of good moral character and sound physical condition. During the Sophomore year, students interested in AFROTC should make a formal application to the Professor of Aerospace Studies, AFROTC Detachment No. 340, College of the Holy Cross, Worcester, Massachusetts 01610.

Entry into the two-year program is on a competitive basis. Applicants must pass a written examination, the Air Force Physical Examination, and be selected by an interview board of Air Force Officers.

Army

Army Reserve Officer Training (ROTC) is offered by Worcester Polytechnic Institute and is available to all students. Physically-qualified American citizens who complete the entire four-year program will be commissioned in the United States Army Reserve. Exceptionally well-qualified cadets may be commissioned in the Regular Army.

There are four variations of ROTC available to the student who desires to participate:

1. The traditional 4-year program during which the student would take MS courses two terms per academic year and attend one advanced summer camp between the third and fourth years.

2. The 2-year program designed especially for transfer students from non-ROTC schools. In this case, students attend a basic summer camp prior to their third year and then continue through their last two years as any other 4-year program student.

3. The third variation consists of a compressed program for students who feel they can complete academic studies in three years. The recommended compression is to take both the first and second year military science subjects in one year but other arrangements can be made. The courses themselves are those of the 4-year program.

4. The last variation includes modular training in the military or personal skills which replaces part or all of the classroom academics offered in the first two years. This type of compression can be worked out both for first and second year students.

Enrollment in ROTC produces military obligation for the first two years. Students entering the Advanced Course (usually at the start of the third year) may incure a three-year active-duty commitment as an officer in the U.S. Army, or attend 90 days Active Duty for Training. Consult: the Military Science Dept. WPI, Worcester, Mass. 01609.

Navy

Courses leading to a commission in the United State Navy or Naval Reserve are available for all qualified male and female students at the College of the Holy Cross by means of cross-enrollment with the Consortium. While technical programs are most desireous, various non-technical disciplines are permissible. There is a two-year as well as a four-year program which requires the completion of one Naval Science course plus a two-hour lab session per semester. These courses are taught by experienced Naval or Marine Corps officers and, with the exception of the lab session are fully accredited four-credit courses.

Commissions in the United States Marine Corps or Marine Corps Reserve are also available as an option within the Naval Science Program. The paths followed for the Navy and Marine candidates are identical for the first two years of the four-year program. Within the Marine option Marine Corps courses are substituted for the Naval Science courses in the junior and senior years of the program.

Scholarships for periods of two, three and four years are available which pay the full costs of tuition, instructional fees, textbooks, and a subsistence allowance of $100 per month. Summer training sessions are scheduled which are both exciting and challenging, affording an opportunity to derive practical experience as well as to travel. It should be noted that no military obligation is incurred prior to a student decision point which occurs at the beginning of the junior year. Consult: the Professor of Naval Science, NROTC Unit, College of the Holy Cross, Worcester, Mass. 01610.

THE PROGRAM OF CONTINUING EDUCATION

The Program of Continuing Education is designed to meet the needs and interests of students with varied experiences and goals. Undergraduate and graduate level courses are offered during the later afternoon, evening and Saturday morning hours.

Undergraduate courses are open to all students who hold a high-school diploma or its equivalent; graduate courses are open to students holding a bachelor's degree and who meet the necessary prerequisites.

Students may be accepted into the College degree programs only after formal application is made. Once admitted, the student is assigned an advisor who helps plan the student's program. Students may also take courses through the Program of Continuing Education without any commitment to a degree program.

The program also offers non-credit Community Service courses for personal and cultural enrichment. An imaginative range of subjects and children's programs are offered each semester to bring interested people into a non-traditional college setting. The atmosphere is geared for interest and as a service oriented toward learning for the college community and town.

The Division of Continuing Education offers persons who are employed or otherwise engaged during the day, an opportunity to pursue their college education on a part-time basis without interfering with their normal activities. Adults wishing to enroll in evening classes may enter as degree students, non-degree students, or as auditors. Opportunities for evening study at the College fall into three general categories (1) undergraduate and graduate degree programs; (2) work in credit courses without reference to a degree;and (3) enrollment in credit courses as an auditor.

Evening credit courses are the same as those offered during the day in context, quality, and quantity of work required. Degree students enrolling in evening classes meet the same academic requirements in course prerequisites and on comple

tion of degree programs receive the same degree as day students. Because of limited course offerings in some academic areas, it may be necessary for evening students to enroll in day classes to complete part of their degree requirements.

Admission Requirements

Twelve credits of 2.0 (or better) at Worcester State College or another accredited institution will usually be the basis for admission to the college as a part-time degree student. However, for some majors, 2.3 (or better) is required. Applicants lacking the necessary grade point average may be admitted as probationary students.

Adult students may enroll for evening credit courses which apply for the degrees of Bachelor of Arts or Bachelor of Science.

The credit courses are taught by full-time faculty members or part-time faculty who are well qualified in their field. Undergraduate credit may be received for lower-series graduate level courses (8-000 level courses), but only with permission of the faculty advisor.

Credit courses normally meet one evening of each week for approximately 3 hours. Part-time evening students are advised to take no more than 2 courses per semester if they are elsewhere occupied on a full-time basis.

Courses are also available through the Office of Graduate and Continuing Education for enrichment as well as for certification purposes.

It is possible to pursue an undergraduate degree on a part-time or full-time basis at the Evening School.

Workshops and Institutes are available through the Office of Graduate and Continuing Education.

Life Plus Learning:

...Significant college learning achieved outside the classroom.

This learning must be identified, documented, and measured appropriately and then evaluated with academic credit in mind as it is appropriate to the curriculum at the College.

Part-time students matriculated through The Division of Graduate and Continuing Education with at least two years experience in the area for which prior learning credit is sought and with a minimum of 15 semester hours at the College.

A faculty member will be selected to work in the Division to assist individuals to document their prior learning. This individual will be trained in the procedures developed by C.A.E.L. and will serve as the student's mentor.

Once the student has put together a packet-portfolio documenting his prior learning a committee will be selected made up of members of the departments for whom prior learning credit is to be sought.

Work experience, community volunteer activities or hobbies may be viewed as types of "off-campus classrooms" in which the development of college level skills may evolve.

Tuition

Residents of Massachusetts	$45.00 per credit hour
Non-residents of Massachusetts	$52.00per credit hour
Audit	$38.00per credit hour

Fees

Registration Fee	$10.00
Library Fee	$10.00
Campus Center	$15.00
Late Registration Fee	$10.00
Change of Registration Fee	$ 2.00
Commencement Fee	$15.00

Tuition and Fees are payable at the time of registration.

Change of Registration Status

A student may change from credit to audit status up to the last scheduled class meeting. No refund will be made in such cases.

A student may change from audit to credit status up to the beginning of the 4th regularly scheduled class meeting. In such cases, the student must pay the full tuition at the time of the change. After the beginning of the 4th regularly scheduled class meeting, such changes will not be permitted.

Office of Community Affairs

Possessing a sense of community which encompasses the state as well as the New England region, the College seeks to extend its expertise and resources for the betterment of that community. The Office of Community Affairs, within the Division of Graduate and Continuing Education, has a primary responsibility for developing relationships with the community and serving its needs.

An important function of the Office is assisting faculty members in securing grant funds to support new accademic programs, staff development, technical assistance and research efforts. Some of these grants have resulted in projects which are housed in the Institute for Community Services. They are the Adult Education Center, the Community Development Center, the Center for Community Involvement, and projects which are substantially supported through grant funds. These efforts have enabled the college to enhance its resources, to gain a national reputation in the areas of Adult and Community Education and to better serve the community of which it is a part.

Non-Credit Programs

The Office of Community Affairs, with the cooperation of various departments within the College also provides courses for non-credit conferences and workshops, cultural offerings, lecture series, and special educational services projects. Programs are designed to serve the need of business and industry, help people lead more useful lives, challenge the active mind, employ leisure time more wisely, and develop better citizenship.

Continuing Education Units

Continuing Education Units (C.E.U. may be awarded to individuals attending non-credit courses and other non-credit activities based on one (C.E.U.)or each hour of class contact. Students not only receive a certificate indicating they have completed the course satisfactorily, but may request a transcript which includes the non-credit courses, conferences, institutes and workships they have satisfactorily completed, plus the number of C.E.U.'s earned for each non-credit activity.

Off-Campus Extension Programs

The Division of Graduate and Continuing Education is committed to providing school systems, business, and ohter professional groups with on-site programs designated to meet their specific needs.

For the past several years a variety of off-campus programs have been developed. These programs have included: credit courses, workshops, and institutes; non-credit courses, workshops, and institutes; workshops for which Continuing Education Units (CEU) are offered.

Courses presently taught at the College can be offered on an on-site basis. Specifically developed courses and workshops carrying college credit can be developed to meet the needs of a particular group.

The Summer Sessions Program

The Summer Sessions program, totally self-supporting, includes a variety of classes, workshops, and institutes which will assist in the professional growth and certification needs of teachers, school administrators, and other educational personnel. Many academic departments offer classes for men and women who are not working toward degrees, but who wish to acquire new knowledge and skills.

The Summer Sessions courses range from lower division undergraduate to upper-level graduate courses which may be applied toward undergraduate and graduate requirements at the College as well as other credential requirements.

The Division of Graduate and Continuing Education conducts two summer sessions as well as several two and three-week intensive or workshop courses. Summer offerings include many unique and innovative programs for teachers and other professional groups.

Student Housing - Summer Only

Summer housing will be provided in the Chandler Village Apartment complex. The apartments are fully furnished except for cooking and eating equipment, bed and bath linen, and desk lamps; all furniture and major kitchen applicances are furnished.

For further information, contact the Housing Office of the College.

Institute for Community Service

The Office of Community Affairs is also responsible for managing grants and contracts which are not associated with an academic department. Offices for such projects as the Adult Education Program, the Community Development Center, the Right to Read Academy, Title XX Training Projects, and the Title XX Base Curriculum. Projects are housed in the Institute for Communicy Services in the Gym building. Through these grants the College provides specialized education and technical assistance. Adult and community educators and Human Service personnel are two groups which have substantially benefited from this service.

The College also cooperates with the Worcester Police Department and the Worcester Consortium for Higher Education by providing office space and supportive services for grants awarded to those organizations.

Certificate Programs

Accounting
Data Processing
Energy Studies
Instructional Communication and Technology
Management and Supervision
Nuclear Medical Technology
Public Administration
Small Business Management
Training and Development/Human Resource Development

THE GRADUATE COLLEGE

The Graduate School acts as a coordinating institution among the several divisions and departments engaged in graduate instruction. The Graduate Dean, his fellow administrators, and the graduate faculty are responsible for the maintenance of uniform standards for higher degrees and certificates.

The primary aim of the Graduate School is to produce graduates who are not only competent in their major field, but are also aware of their professional responsibilities. Another major goal is to foster research on the part of both faculty and students. Every graduate student is given the opportunity to engage in original investigation under the direction of a member of the faculty.

The Office of the Graduate School, Room S-112, is open from 9:00 a.m. to 9:00 p.m., Monday through Thursday, and from 9:00 a.m. to 4:30 p.m. on Friday. Persons interested in working toward a master's degree or Certificate of Advanced Graduate Study (CAGS) on either a full-time or part-time basis should obtain appropriate application materials at the Office of the Graduate School.

Students are strongly urged to familiarize themselves with the general policies, procedures, and program requirements of the Graduate School outlined in the following pages prior to enrolling in courses carrying graduate credit. For general information in addition to that provided in the catalogue, students may make an appointment with a counselor by telephoning the Graduate School Office, 793-8100. Official notification of such matters as acceptance, grades, and results of all examinations will be released by letter only.

Objectives of Graduate Education

The objectives of Graduate Education at Worcester State College are:

1. To provide the student with greater depth and breadth of experience, building on the foundation of understanding graduate education.

2. To facilitate the integration of classroom instruction and professional experience by emphasizing applied experience responding to current issues and utilizing professionals from outside the academic community as well as those within it.

3. To enable students to update, expand, and/or increase specialization of knowledge and skills in their field of competence, thereby equipping them to function more adequately as professionals.

All graduate programs originated in the appropriate academic department of the college. The department retains responsibility for the maintenance of the quality of the degree specialization, for recommending changes in the degree program, and for recommending new courses. A departmental member is the designated advisor and coordinator for the degree program.

A full-time member of the appropriate academic department and of the graduate faculty serves as the designated advisor and coordinator for each degree program and/or concentration. Advisors, highly qualified in their area of specialization, provide a vital link between the students, faculty and the Dean and are key figures in the administrative and academic system. Their function is to guide and counsel graduate students in academic specialization. They assist degree candidates in preparing their plan of study for the degree and must approve all courses accepted toward their advisees' degree programs.

Graduate College Programs Advisors and Coordinators

Master of Education

Adult Education	(Kightlinger)
Biology	(Graham)
Chemistry	(Cooper)
Community Education	(Masterson)
Computer Science	(Schoen)
Counselor Training Education	(Farrey)
Early Childhood Education	(Meegan)
Elementary Education	(Harris)
English	(Walker)
Generic Teacher	(Cummings and Desrosiers)
Health Education	(Burke)
History	(Shea)
Language Arts	(Fraumeni)
Leadership and Education Administration	(Masterson)
Mathematics	(Schoen)
Natural Science	(Chapman)
Reading	(Fraumeni)
Secondary Education	(Zax)
Spanish	(Alcala)
Special Needs - Classroom Teacher	(Cummings and Desrosiers)
Urban Education	(Quint)

Master of Science

Speech Pathology & Audiology (Rezen)
MA/MS Biology (Graham)
Master of Human Services Management (Langlois)
Licensure Program for the Generic Special Needs Teacher (Desrosiers)
Master of Applied Mathematics (Concentrations in: Applied Mathematics and Computer Science (Schoen)
Master of Education/ CAGS in School Psychology (Guarini)

CAGS

Counselor Training (Farrey)
Cirriculum & Instruction (Johnson)
Language Arts/Reading(Fraumeni)
Leadership and Education Administration (Masterson)
Secondary Education (Zax)

Admissions

An application is not complete and no applicant will be considered for admission unless all of the appropriate documents indicated below have been received by the Dean of the Graduate School and a departmental interview held on or before the appropriate application deadline indicated in the College Calendar in this catalog. *It is the responsibility of the student to make certain that all application documents are received in time.* Ordinarily, applications completed after a deadline will be considered at the next admission date.

General Admission Requirements

Students seeking admission to a program leading to a master's degree must hold a bachelor's degree from a four-year institution of acceptable standing. (College seniors may be admitted on a conditional basis.) Students seeking admission to a CAGS program must hold an appropriate master's degree from an institution of acceptable standing. Ordinarily, the master's degree must be in an area within the CAGS field chosen by the student.

Applicants to the Graduate School should make certain that the following are on file in the Graduate Office.

1. An appropriate master's degree or CAGS application form. Application forms may be obtained from the Graduate Office.

2. Official copies of all undergraduate and graduate transcripts. All transcripts must be sent by college registrars directly to the Dean of

the Graduate School and must bear the seal of the College. Applicants who have attended more than one undergraduate college and/or graduate school should arrange to have duplicate transcripts of all course work, including grade results, sent directly to the Dean of the Graduate School. Graduates of Worcester State College should request the College Reistrar to send transcripts to the Graduate Office. Applicants who have enrolled in WSC's Program of Continuing Education should request the P.C.E. Office to send their transcripts to the Graduate Office.

Applicants who have successfully completed graduate courses, as well as those who hold a degree(s) in addition to the baccalaureate, must fulfill all application requirements as set forth in this catalog. It should be noted that the successful completion of graduate courses prior to application will not obligate the academic department or the Graduate School to recommend an applicant for acceptance.

3. The results of the Aptitude Test of the Graduate Record Examination -or the Miller Analogy Test. This requirement will be waived if the applicant has earned a graduate degree at an accreditied institution of higher education prior to requesting admission. Master's degree applicants must arrange to have scores sent from the Educational Testing Service directly to the Dean of the Graduate School. Photocopies of scores and scores submitted by the applicant are not acceptable. Application forms and information relative to the Graduate Record Examinations may be obtained from the Graduate Office. Since up to six weeks may elapse between the test date and the receipt of scores, applicants should take the test well in advance of the Graduate School's deadline for receipt of completed applications. In addition, applicants for a Master of Arts program must submit the appropriate advanced test score. All applicants from countries where English is not an official language, must also submit scores on Educational Testing Service's Test of English as a Foreign Language (TOEFL) examination. Ordinarily, only students with TOEFL scores of 500 or better will be considered for admission.

   The Graduate Record Examination is administered at the College six times each year. Call the Division of Graduate Education for the dates and on-campus location.

   The Miller Analogies Test is also offered at WSC by appointment only. To make arrangements for this examination, call the Graduate Office.

4. Two letters of recommendation. Forms for recommendations are available at the Graduate Office. Only letters of recommendation submitted on these forms and sent by the reference directly to the Graduate School will be accepted. These letters indicate an estimate of the applicant's ability to pursue successfully a master's degree program.

5. Additional departmental requirements. There may also be special departmental requirements relative to the application. Such requirements, if any, are to be found under each department's description of its graduate program(s).

6. Be interviewed by a member of the professional staff of the Division of Graduate Education.

Application materials should be submitted to the Graduate Office in accordance with the following schedule:

1. Prior to April 15th for admission in the fall semester.
2. Prior to October 2nd for admission in the spring semester.
3. Prior to March 2nd for admission in the summer semester.

All transcripts and other documents submitted become the property of the Graduate School and will not be returned. Copies of transcripts and other documents will not be issued from the Graduate Office for use at other schools.

Action by the Dean of the Graduate School

The Dean, after reviewing the recommendations of the academic department, will notify the applicant of the action taken. This notification will be mailed normally in May, October and March.

Changes in Program

Any request to change from one graduate program to another must be made prior to the deadline for receiving completed applications as indicated in the College Calendar. Students wishing to change programs should request the Graduate School in writing to review their file to determine what additional material needs to be submitted. Students requesting a change in program should be aware that their original date of acceptance by the Graduate School will not change. Appropriate credits earned prior to a program change may be transferred to the new graduate program with the approval of the new advisor.

General Policies and Procedures

Students are responsible for all information or for any notices posted on the bulletin boards of the Graduate School, the Program of Continuing Education, the Library, and the academic departments.

No deviations from any graduate regulations are permissible unless they are approved by the Graduate Dean, after consultation with appropriate faculty and administrators.

Deadlines

Students are reminded to consult the annual College Calendar for the deadlines and dates relative to such matters as: admissions, Graduate Record Examinations, comprehensive examination requests, approval of transfer credit, and filing applications to graduate.

Time Limits — Program and Course

ALL GRADUATE PROGRAM REQUIREMENTS MUST BE COMPLETED WITHIN SIX YEARS of the date of the student's acceptance.

Change of Name and/or Address

Students should promptly notify the Office of the Graduate School of any change in name or address by using the appropriate graduate school form. Failure to do this may cause unfortunate complications and delays which inconvenience students. Forms are available at the Office of the Graduate School.

Graduate Advisors and Program Planning

Each graduate student who is accepted is assigned an advisor(s) representing the student's area of study.

Graduate Program Requirements

Graduate Admission

General Admission Requirements: Candidates must have:

1. Completed a four-year college course of study and hold an accepted baccalaureate degree from an accredited institution;

2. Attained a grade point average of 2.75 or above; and must

3. Satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations.

Applicants should consult the Admission Form for all details regarding general requirements for admission to graduate study.

Notification of Admission to Post-Baccalaureate Study: The applicant is officially notified by the Dean of the decision which has been reached on his application: Only he can issue an official acceptance for admission to a graduate degree program.

Matriculation

In order to become a candidate for a degree, a student must formally apply for matriculation and be accepted into a specific program. Students enrolled in courses, but not formally matriculated, are considered non-matriculated students.

The Division of Graduate Education recommends that graduate students take no more than two courses prior to applying for matriculation and being accepted into a degree program. Full time status shall be defined as 9 or more semester hours per semester.

A student who matriculates in a program is assigned an advisor in the particular field of study, has an opportunity to develop an approved program of study, and is not affected by any subsequent changes in requirements for the degree.

All credentials must be on file in the Graduate Office of the College and must have been reviewed by the appropriate department prior to registration for the first semester of study as a matriculated student. Admission to the Graduate School is conditional upon the successful attainment of the baccalaureate degree.

Candidates may be admitted on either a regular or provisional basis.

Applicants accepted for admission to graduate degree study will receive confirmation of acceptance and appropriate materials relating to the completion of requirements for the graduate degree, as well as a Certificate of Residence Form (Massachusetts residents only). All forms should be completed and returned to the appropriate office as required.

Document Policies

A transcript of a student's record received from another university or college is not forwarded to a third institution. The student should request another transcript from the original institution.

Requirements for the Master of Education, Master of Arts and Master of Science Degree

The minimum number of credits for the degree is thirty-three semester hours. At least fifty percent of course credits must be taken which are exclusively at the graduate level(9-000). A maximum of twelve credits of "B" or above may be accepted toward the graduate degree from a Massachusetts state college. A maximum of six credits of "B" or above may be accepted toward the degree from another accredited institution of higher education. A minimum of twenty-one semester hours must be earned at Worcester State College. Acceptance of transfer credits will be the responsibility of the Graduate Dean and the appropriate Program Coordinator, in conjunction with the Graduate Committee.

It is the responsibility of the student to contact his Program Coordinator during the first semester of acceptance to plan the program of study. A minimum average of "B" or above is required to earn the degree. Two grades of "C" or below will necessitate program review by the appropriate department chairman or Pro-

gram Coordinator and the Dean. Twenty-seven credit hours of approved course work toward the degree must be "B" or above. Students must employ the authorized form in order to officially withdraw from a course. Withdrawal will carry a grade of "W" (withdrawn) and will be so recorded. Any student receiving a grade of "E" will be dropped from his program of study.

The Dean reserves the right to periodically review the performance of all graduate students in accordance with the academic standards of the graduate program and of the College. In the event that a student is unable to fulfill the requirements for a course due to justifiable extenuating circumstances such as illness, an instructor may permit an extension of eight weeks into the following semester to complete the requirements. The student will receive a grade of "I" (incomplete). If, by the end of this period, (eight weeks into the following semester)the student has not satisfactorily completed the course requirements, a permanent grade of "E" will be recorded.

EVERY STUDENT IS REQUIRED TO PASS AN ORAL AND/OR WRITTEN COMPREHENSIVE EXAMINATION IN HIS FIELD OF CONCENTRATION, prior to being eligible to receive the degree. A candidate for the degree who fails the comprehensive examination is permitted one further opportunity to satisfy this requirement. The re-examination must take place by the end of the succeeding academic year.

Students may avail themselves of the Thesis Option in those departments where such an option is designated.

It is the responsibility of eligible students to signify their intention to graduate in a given academic year. The authorized form signifying intent to graduate is available at the Graduate Office: it must be submitted no later than March 15th of the Academic year in which graduation is desired.

Regular attendance at class is assumed. More than two absences without sufficient reason and notification to the professor may constitute a failure for the course.

General Requirements for all Master's Degrees

Education Foundation Courses

Nine graduate credit hours must be completed in the following; Research in Education (3 credits); Advanced Philosophical Foundations of Education (3 credits); Advanced Psychological Foundations of Education (3 credits). Fifteen (15) to eighteen (18) credits in the field of concentration. Six (6) to nine (9) credit hours in approved electives.

Certificate of Advanced Graduate Study

General Requirements

The minimum number of credits for the degree is thirty semester hours. All of the courses must be taken in courses which are exclusively at the graduate level (9-000). All credits toward the C.A.G.S. degree must be taken at Worcester State

College. No credits may be transferred into the program from another institution. Six semester hours in the 9-000 series which have been taken at the College prior to admittance to the program and which are deemed applicable may be transferred into the C.A.G.S. program. Any credits beyond these six which a student would like to transfer into the C.A.G.S. program must be approved by the department chairman or Program Coordinator and the Dean. The transfer of additional credits must also be approved by the Graduate Education Committtee. **All work for the C.A.G.S. must be completed within a period of six years.**

Candidates for admission must contact his Program Coordinator during the first semester of acceptance to plan the program of study. A minimum scholastic average of "B" in courses taken for the degree program is required of all students. A student who receives a grade lower than "B" will be placed on provisional status and may be terminated from the program by the decision of the Graduate Education Committee.

Tuition and Fees

Tuition

Massachusetts Resident	$45.00 per credit
Non-Resident of Massachusetts	$52.00 per credit
Audit (Resident and Non-Resident	$38.00 per credit

Fees (Per Semester)

NOT REFUNDABLE UNDER ANY CIRCUMSTANCES

Registration Fee	$10.00
Library Fee	$10.00
Late Registration Fee	$10.00
Course Change Fee (per course)	$ 2.00
Campus Center Fee	$15.00
Placement Fee (for those receiving degrees)	$ 5.00
Parking Fee (payable separately)	$ 2.00
Transcript Fee (payable separately)	$ 1.00

All tuition and fees are payable on the date of the registration and must be paid by bank check, money order or personal check, or Master Charge/Visa. CASH WILL NOT BE ACCEPTED.

Change of Course

A fee of $2.00 is required of all students for each course change with the exception of a change which is necessitated by the cancellation of scheduled courses by the Dean. NO CHANGE OF COURSE WILL BE PERMITTED AFTER THE 2ND REGULARLY SCHEDULED MEETING OF THE CLASS.

Elder Citizens

Citizens 65 years of age and over may attend the College at the cost of fees only. This ruling is in effect only if there are sufficient number of paying students in the course to enable it to be run, and if there is seating available in the course.

Veterans Benefits

World War II and Korean War veterans pay only fees. Vietnam veterans whose home of record was Massachusetts and whose VA educational benefits have been exhausted also pay only fees.

All veterans wishing to establish themselves as tuition exempt must fill out a Veterans Verification Form at the Veteran's Affairs Office unless previously certified as being eligible for tuition exemption.

Withdrawal and Refunds

Failure to attend class meeting does not automatically constitute official withdrawal from a course.

Official notice of withdrawal must be made on the form which is available at the Graduate Office.

The official date of withdrawal is determined by the date on which the completed form is received by the Office.

If the proper procedure for withdrawal is not followed, students will receive an official grade of "E" for the course.

Refund Policy

Refunds are based on the number of class meetings which are scheduled, not on the number of class meetings attended by the student.

Withdrawal Prior to Second Class Meeting 100%
Withdrawal Prior to Third Class Meeting 80%
Withdrawal Prior to Fourth Class Meeting 60%
Withdrawal After Fourth Class Meeting ..... No Refund

The state-refunding process normally requires a minimum period of 45 days from the date on which the refund request is submitted by the Graduate Division.

The deadline for withdrawal from a course is the fourth regular class meeting (for a 6-week course) and the regular class meeting for a 2-week or 3-week course. Students with extenuating circumstances must secure the approval of the Dean in order to withdraw from a course after the deadline.

A grade of "W" will be officially recorded if a student withdraws from a course.

Financial Aid

All inquiries regarding financial aid should be directed to the Financial Aid Office.

Policies and Regulations:

Academic Review Procedure

To mediate complaints of students enrolled in courses through the Division of Graduate and Continuing Education.

Level 1 - The Professor of Record (or his designee)

1. The Professor of Record is required to maintain all pertinent criteria pertaining to the students' grades for six months after a course has ended.

2. Any student question and/or complaint regarding a final grade must be directed initially to the Professor of Record within one month after final grade reports have been mailed.

3. The student must allow a minimum of seven consecutive working days for a meeting with the Professor of Record to be scheduled. A student shall have access to all academic criteria used to determine the grade upon a 48-hour written notice requesting access. The request must be directed to the Professor of Record.

4. The student must be notified in writing of the result of the meeting by the Professor of Record within five working days of the meeting. If the matter is not resolved at Level 1, it may proceed to Level II.

Level II - The dean of Graduate and Continuing Education.

1. The Dean of Graduate and Continuing Education will schedule a meeting with the Professor of Record and the student to mediate the academic concern. This meeting shall take place within ten (10) working days following the receipt of the proceedings initiated at Level I.

Attendance Policy

Students are expected to attend all scheduled class meetings of courses in which they are enrolled.

If absence from a class session is necessitated by illness, accident, or other valid reason, the student should inform the instructor of the reason for the absence and arrange to make up any class work and/or assignments.

Cancellation of Courses

The Dean of the Division of Graduate and Continuing Education reserves the right to cancel any course which does not secure sufficient enrollment or for any other reason deemed to be in the best interest of the College.

Students who have enrolled in a course which is cancelled by the Dean mya transfer into another course (on a space-available basis) without the imposition of a course change fee or may receive a full refund of tuition and fees.

Candidacy for Graduate Degrees and Certificates

Matriculated graduate students should complete an Intent-To-Graduate Form at the time they enroll in their final semester of graduate study. The form is available at the Graduate Office.

Commencement exercises are held in May. Students who complete all requirements for their program of graduate study during the fall semester or during the summer sessions should contact the Graduate Office by March 15 if they intend to participate in the spring commencement ceremonies.

Grading Policy

The grading system for graduate students is as follows: Letter Grades — A,A-,B+,B,C+,C,E(Failure),W(Withdrawal),I(Incomplete). The letter grade D may also be utilized for undergraduate students.

Official Transcripts and Grade Reports

Official transcripts of courses taken in the Division of Graduate and Continuing Education are issued only upon the written request of the student concerned. All transcripts which are issued will reflect the student's cumulative academic record. No request for a partial transcript will be honored.

All requests for transcripts must be made by the student concerned on the form which is available at the Graduate Office and must be accompanied by the appropriate fee of $1.00 per copy. There is no charge for transcript requests addressed to the Registrar. The request normally takes 48 hours to process. Transcripts which are to include the final grades of the existing session or semester will normally be available approximately 4 weeks after the close of the session or semester.

Grade reports will be mailed to students who have no outstanding bills at the college as soon as they are processed.

Student Records

Students have the right to view educational records which are kept in the Office of Graduate and Continuing Education. Parents of students under 18 and/or parents of students who are dependent upon their parents (for Federal Income Tax purposes) have the right to view these records. Authorized Federal and State officials may view the records. College faculty and staff members have legitimate educational interests may examine student files. Organizations conducting authorized studies may examine student records if the identity of the student will not be revealed in the study report(s) and/or publication(s). Persons processing a student's financial aid application may view student files. Recognized accrediting agencies and organizations may examine student files in pursuit of their accrediting functions. In an emergency, the Dean of Graduate and Continuing Education (or

his designee) may permit access to the records if this access is necessary to protect the health or safety of the student or other persons. The student may grant access to individuals or organizations not specified above. In this event, there must be written permission given by the student. The organization or individual so designated must provide proof of identity in order to examine the student records.

Confidential evaluations and/or recommendations which were placed in the student's file prior to January 1, 1975 are not available for viewing by students or parents.

A student must voluntarily waive his right of access to his records. Any such waiver becomes part of the file.

In order to examine student files, students and eligible parents must complete the Request for Viewing Records Form. Individuals and/or organizations given permission by the student to examine records must present the completed Authorization for Release of Educational Information Form. Anyone who examines the student's record must sign a log which becomes part of the file. All requests to examine student files by students, parents, individuals, or organizations must be referred to the Dean (or his designee) for compliance.

NO PERSON OTHER THAN THE DEAN OF GRADUATE AND CONTINUING EDUCATION (OR HIS DESIGNEE) MAY TAKE ANY ACTION ON REQUESTS TO EXAMINE STUDENT RECORDS.

DEPARTMENTS AND PROGRAMS OF THE COLLEGE

Arts and Humanities

Chairman: Schaff

Art
Media
Music
Philosophy

Art

Professor: Carter, Kosmer
Assistant Professor: Casale, Dolphin, Kocher, Merle

The faculty of Art offers diversified courses designed to help the individual understand and develop sensory perception, become aware of human artistic accomplishments and perceive the possibilities of designing and changing the visual and physical environment.

Requirements for a Minor: 18 semester hours (six courses) including a minimum of three hours in Art History and at least one advanced course. (The College reserves the right to retain some student work for demonstration and exhibition).

*Media

Professor: Davis, Joyce
Associate Professor: McGough
Assistant Professor: Archibald-Seiffer, Byers, Mitchell, Piccolo, Shea

The Media Program provides students with skills in the communication process

*Programs marked with an asteriak are pending approval by college governance.

using vocal, mechanical, optical, electronic or performance means. It is also designed to prepare students for beginning positions in business, industry, health services, and other fields in which their communication skills can be used.

Requirements for a Major: 30 hours: Me 100, Introduction to Media, plus 27 credit hours in Media courses and in approved auxiliary courses.

Concentration: Communication Technology: Me100 Introduction to Media; Me201, Sources of Media Information

Concentration: Theatre: Me 100, Introduction to Media; Me 201, Sources of Media Information; Me 135, Oral Interpretation of Literature; Me191, Introduction to Theatre.

Requirements for a Minor: 18 credits of Media Courses: Me 100, Introduction to Media

Certificate in Instructional Communications and Technology

Requirements: a minimum of 48 college credits before admission. The student must acquire 15 credits at WSC: two core courses (ME 8-400, Instructional Technology and ME 8-420, Instructional Systems Design); two elective courses from the following list: EN8-106, Technical Communications in Business and Industry; EN8-121, Principles of Journalism; EN8-122, Techniques of Journalism; ME8-100 Creative Advertising and Publicity; ME8-245, Graphic Communications; ME8-250, Photography I; ME8-254, Basic Videotaping; ME8-257, Super 8 Film Production I, ME8-260, Slide/Sound Program Production; ME8-265, Audio Program Production; ME8-360, Television Production I; and one three-credit open-elective in a course related to the student's personal goals.

Music

Assistant Professor: Celona, Sahagian

The Music discipline considers appreciation, understanding, progress and quality as its goals and offers a choice of courses in music literature and theory. Musica as an educational factor in developing and broadening an individual is emphasized.

Requirements for a Minor: A minimum of 18 hours in Music courses.

Philosophy

Professor: Traub
Associate Professor: Robbins, Schaff, Schlosser
Assistant Professor: Brophy

The purpose of Philosophy is the development of a free, responsible and civilized person with a critical and humane intelligence. To achieve this objective the student studies the major philosophers in the Ancient, Medieval, Modern and Contemporary periods, and the basic problems (political, social, moral and metaphysical) concerning human nature and destiny.

Requirements for a Minor: 18 Credits: Ph-120 and Ph-140 are required: a maximum of 24 credit hours.

Communication Disorders

Chairman: Cohen

Professor: Cohen, Lysaght
Assisant Professor: McLaughlin, Power, Rezen
Instructor: Galtman

Communication Disorders majors receive training in the speech and hearing sciences. With a sound theoretical basis, the student then participates in evaluation, diagnosis, and rehabilitation of children and adults with communication problems. This program emphasizes the blending of theoretical and practical skills through solid academic and clinical training.

Admission Requirements: Students must complete the following pre-requisites, earning a grade of C+ or better: Speech Pathology, Phonetics, Anatomy and Physiology of Speech and Hearing, Normal Development of Speech and Language, and Introduction to Hearing Science. Students must demonstrate adequate speech/language patterns. Students must petition the department for admission to the program.

Requirements for a Major: 39 credits: Cd-100, Speech Pathology; Cd-105, Phonetics; Cd-110, Anatomy and Physiology of the Speech and Hearing; Cd-115, Normal Development of Speech and Language; Cd-200, Introduction to Hearing Science; Cd-205, Audiology; Cd-210, Language Disorders; Cd-215, Voice and Articulation Disorders; Cd-300, Rehabilitation of the Auditorily Impaired; Cd-305, Rhythm Problems and Allied Disorders of Speech; Cd-310, Speech/Language Practicum.

Requirements for a Minor: 18 Credits within the department.

Graduate Program

Admission Requirements: General Admission Requirements and applicants must have completed courses in Speech Pathology, Phonetics, Anatomy and Physiology of Speech and Hearing, Language Development, Hearing Science, Audiology and Child Development. They must have a minimum undergraduate cumulative grade point average of 3.0, acceptable speech/language patterns and adequate Graduate Record Examination or Miller Analogy Scores.

Requirements for a Master of Science in Speech Pathology or Audiology with a Concentration in Speech Pathology: Students must complete: Cd 8-400, Articulation Disorders; Cd 9-200, Research in Communication Disorders; Cd 9-225 or Cd 9-235, Language Disorders in Adults or Children; Cd 9-400, Diagnostic Evaluation: Methods and Procedures; Cd 9-800, Seminar in Speech Pathology; Cd 9-900, Clinical Practicum in Speech Pathology; two Audiology courses (6 credits); Ma 8-500, Statistical Techniques for Business, Liberal Arts, Nursing and Science (3 credits); two intradepartmental electives (6 credits); two interdepartmental electives (6 credits); Demonstration of Competence in a foreign language or Computer Science.

Requirements for a Master of Science in Speech Pathology or Audiology with a Concentration in Audiology: Students must complete: Cd 8-280, Clinical Audiology; Cd 9-200, Research in Communication Disorders; Cd 9-260, Aural Rehabilitation; Cd 9-270, Hearing Aids and Hearing Aid Selection; Cd 9-850, Seminar in Audiology; Cd 9-950, Clinical Practicum in Audiology; Two Speech Pathology courses (6 credits); also Ma 8-500, Statistical Techniques for Business, Liberal Arts, Nursing and Science (3 credits); Two intradepartmental electives (6 credits); Two interdepartmental electives (6 credits); Demonstration of Competence in foreign language or computer science. This concentration is offered only when student enrollment is sufficient.

*Education

Chairman: Johnson

Professor: Bunaun, Harris, Johnson, Pilon, Quint
Associate Professor: Fraumeni, Meegan, O'Neil, Scannel, Scanlon
Assistant Professor: Burns, Geer

The Education Department offers programs leading to teaching certification at various levels. The Early Childhood Program focuses on preparation for professional service in preschool settings and the primary level of elementary schools. The

Elementary Program focuses on the preparation of teachers for certification at the elementary level. The Middle School Program and the Secondary Education Program are also available. Students may have two majors by using their academic field and their electives for their second major.

General Requirements: Students are assigned to faculty advisors who work with them throughout their college years. Prospective student teachers must apply to the Coordinator of Student Teaching the semester prior to their student teaching. Students must maintain an average of 2.5 for Early Childhood courses and 2.5 for Elementary Education courses with cumulative average of 2.0 to remain in the program. Periodic transcript review by the department determines the status of each student.

Requirements for a Major:

Early Childhood Education: 21 credits: ED110, Orientation to Early Childhood Education; ED211, Cirriculum Designs for Young Children; ED212, Human Interrelationships in Early Childhood Education; ED310, Early Childhood Education Methods and Materials Core; ED311, Field Experience in Early Childhood Education; ED420, Field Experience and Seminar and ED620, Student Teaching.

Elementary Education: 15 credits: ED135, Introduction to Teaching and Learning; ED335, Methods and Materials, Block I and Block II; ED300, Education Psychology: ED454, Prepractica, and ED635, Student Teaching.

Middle and Secondary School: 21 credits: ED288, Emerging Opportunities for Educators; ED255, Developing Basic Academic Skills of Adolescents; ED256, Fundamental Approaches for Teaching Adolescents; ED320, Individualizing Instruction for Adolescents; ED301, Evaluating Classroom Learning; ED355, Foundations of Cirriculum and Instruction at the Middle and Secondary School; ED360, Cirriculum Methods and Media in the Teaching of (subject area).

Requirements for a minor: 18 credits in Education courses.

Graduate Programs

Master of Education, Concentration in Adult Education

Admission Requirements: General admission requirements.

Required Courses: Education Foundation Courses: 9 credits; Adult Education Courses: 15 credits; Electives: 9 credits.

An individualized Program of Study is developed to meet career goals of the applicant.

Adult Education Courses: ED8-160, Reading Needs of the Adult Learner; ED8-255, Workshop: Train the Trainer; ED8-276, Teaching ESL to Adults; ED8-280, The Practice of Adult Education; ED8-292, Workshop in Adult Education; ED9-200, Programs for the Aging; ED9-215, Workshop in Adult Education; ED9-200, Programs for the Aging; ED9-215, Teaching the Illiterate Adult; ED9-225, Designing, Developing and Delivering Training Programs; ED9-250, History and Philosophy of Adult Education; ED9-255, Directed Study in Adult Education; ED9-260, Psychology of the Adult Learner; ED9-270, Program Planning for Adults; ED9-275, Administration in Adult Education; ED9-280, Internship in Adult Education.

Certificate Program for Training and Development/Human Resource Development Practitioners

Prerequisite: Minimum of 48 previous college credits and documentation of current employment in the field.

Requirements: All students must complete a minimum of one course in the 4 Skill Areas of Program Design and Developmemt, Program Management, Adult Learning/Adult Learners, Instructional Skills/Group Process. The requirements are based on a point system (3 credit course = 15 points) with 75 points required for students with an undergraduate degree and 105 points for students without an undergraduate degree. Courses include Ed-270 Program Planning for Adults, Ed9-260 Psychology of the Adult Learner, Ed9-275 Administration in Adult Education, Ed9-280 Internship in Adult Education, Ed9-255 Directed Study in Adult Education, and Ed8-292 Workshop in Adult Education in areas of: Interpersonal Skills; Group Process; Motivation in the Work Place; Train the Trainer; Designing, Developing and Delivering Training Programs; and Facilitator Training.

Master of Education, Concentration in Community Education

Admission Requirements: General admission requirements.

Required Courses: Education Foundation Courses: 9 credits:

Area I: (9 credits):

The student must select, with the approval of his advisor, 3 of the following 4 courses: ED8-210, Organizational Patterns of the Community school; ED8-270, Community Communication and Organization; ED9-220, The Community School: Processes and Problems; ED9-210, The Community School: Its administration and Supervision.

Area II: (3 credits):

The student will select, with the approval of his advisor, 1 of the following 3 courses: ED9-290, Special Problems in Community Education; ED, Internship in Program Development in Community Education; ED8-293, Independent Study in Community Education. The interdisciplinary nature of the program focuses on 3 clusters which are appropriate for other aspects of Community Education:

Cluster I — Adult Education (12 credits): ED9-250, The History and Philosophy of Adult Educaion; ED9-215, Teaching the Illiterate Adult; ED9-260, Psychology of the Adult Learner; ED9-200, Programs for the Aging; ED9-275, Administration in Adult Education.

Cluster II — Leadership and Educational Administration (12 credits): ED9-100, Foundation of School Administration; ED9-103, Fundamentals of School Finance; ED9-105, Public School Administration; ED9-112, School Law II: Law for the Admiinistrator; ED9-112, Grantsmanship for the Teacher and the Administrator.

Cluster III — Community Development (12 credits): UR 311, Community Politics and Policy; ED, Leadership in Organizations; ED8-225, Volunteers in the Community; SO 270, Social Theory; SO 340 Social Psychology.

Master of Education
Concentration in Counselor Training

Requirements: Education Foundation Requirements (9 credits)

Core Requirements in Counseling: Theories of Counseling (3 credits); Group Psychological Testing (3 credits); Practicum I and II (6 credits in area of specialization)

Area of Specialization (9 credits).

Community Agency/Mental Health Counseling: select three of the following: Group Counseling; Family and Parent Counseling; Vocational Development and Occupational Information; Psychological Counseling Strategies.

School Counseling: select three of the following: Introduction to Pupil-Personnel Services; Individual Intelligence Appraisal (Weschler or Binet); Vocational Development and Occupational Information; Family and Parent Counseling.

Career Development Counseling: select three of the following: Vocational Development and Occupational Information; Vocational Counseling Strategies; Seminar Career Counseling; Theories of Self-Assessment and Life/Work Planning.

Master of Education
Concentration in Early Childhood Education

Admission Requirements: General admission requirements.

Required Courses: Education Foundation Courses, 9 credits: ED8-320, Cirriculum for Early Childhood Education; ED8-330, Methods and Materials in Early Childhood Education; ED9-320, Intellectual Development in Early Childhood Education; ED9-380, Seminar in Early Childhood Education; ED9-350, Supervision and Administration in Early Childhood Education. Electives - 9 credits.

Master of Education
Concentration in Elementary Education

Admission Requirements: General admission requirements.

The candidate must have received a baccalaureate degree from an institution which offers an accredited program in teacher education and the candidate must hold a teaching certificate in Elementary Education.

Required courses: Education Foundation Courses (9 credits); ED9-420, Seminar in Current Issues in Elementary Education; ED9-410, Theory and Research in the Elementary Cirriculum. Elective Courses 18 credits.

Master of Education
Generic Counsulting Teacher
and 30 Credit Licensure Program

Admission Requirements: General admission requirements.

In addition, all applicants must meet the following special criteria:

1. Massachusetts teaching certificate
2. Two years of employment in the role of the certificate
3. Prerequisite course or equivalent in Child Growth and Development

The candidate must possess a Master's Degree in a related field, and meet the additional prerequisites listed above.

Program Requirements: 1. Possession of Massachusetts teaching certificate; 2. two years of employment in the role covered by that certificate; 3. completion of a prepracticum consisting of 30 semester hours of course work and other experiences as defined in the Program of Studies. There are no electives; 4. Completion of a half practicum (150 clock hours) judged successful on the basis of the standards. Practicum sites and role descriptions must be approved by the Coordinators. WSC can provide practicum sites.

Program of Study: (36 credits) Core Foundation Requirements: **ED9-970 Advanced Philosophical Foundations of Education; **ED9-980 Advanced Psychological Foundations of Education.

Pre-Practicum: ED9-600, Developmental Patterns of Children with Special Needs; ED9-610, Analysis and Interpretations of Children's Behavior and Learning Environment; ED9-620, Development and Implementation of an Individualized Educational Plan for Children with Special Needs; ED9-625, Classroom Management Techniques for Children with Special Needs; ED9-630, Program Development and Evaluation for Children with Special Needs; ED9-640, Consulting and Interpersonal Skills for the Generic Special Teacher; CD8-115, Speech and Language Development; ED9-960, Research in Education.

Practicum: ED9-650, Practicum for the Generic Special Teacher.

Master of Education Concentration in Language Arts

Requirements for Admission: General admission requirements.

Program of Study: Education Foundation Courses (9 credits); Language Arts Concentration Courses (15 credits): the following courses are to be taken in sequence: Advanced Study in the Teaching Language Arts and Reading; Creative Writing ro Pupils in the Elementary School; Teaching Language and Reading in the Inner City School; Research in the Teaching of Language Arts/Reading; Lab Practicum in Language Arts in the Elementary School: *Summers Only*. Elective Courses (9 credits).

Master of Education Concentration in Leadership and Education Administration

Admission Requirements: General admission requirements.

Program Requirements: Education Foundation courses (9 credits); ED9-105, Public School Administration; ED9-103, Fundamentals of Public School Finance; ED9-140, Cirriculum Development Seminar for Administrators; ED-112, Law for the Administrator; ED9-127, Organization and Administration of the Elementary School or ED9-158, Organization and Administration of the Middle and Secondary School; and with the approval of the advisor, 3 elective courses.

**Courses not taken as part of the Licensure Program.

Master of Education
Concentration in Reading

This concentration is designed to prepare personnel for the multiple role of the Consultant Teacher of Reading (all levels), following the standards established by the Massachusetts Department of Education.

Admission Requirements: General admission requirements and: 1. possession of a Massachusetts classroom teaching certificate; 2. one year of employment in the role covered by that certificate; 3. completion of a pre-practicum consisting of 36 semester hours of course work and other experience as defined in Standards I-V established by the Massachusetts Department of Education (603 CMR, b, c, d, e, f); 4. successful completion of a half-practicum (150 hours).

Program of Study for the Concentration: Education Foundation Courses 9 credits; ED9-510 Psychology in Teaching Reading; ED9-515 Linguistics and Language Acquisition for the Reading Teacher; ED9-520 Diagnosis of Reading Disabilities; ED9-525 Correction of Reading Disabilities; ED9-530 Teaching Reading in the Content Areas; ED8-620 Education of Children with Special Needs; CE 9-300 Individual Intelligence Appraisal — WAIS-WISC; (or CE 9-350 Individual Intelligence Appraisal — Binet); ED 9-535 Literature in the Classroom; ED 9-540 Seminar in the Administration and Supervision of Reading Programs; ED9-550 Laboratory Practicum in Reading.

Master of Education
Concentration in Secondary Education

Admission Requirements: General admission requirements.

Courses: Education Foundation Courses (9 credits); Concentration courses (12-18 credits). At least 4 of the following: ED9-710, Crucial Issues in Education; ED9-740, Team Teaching in the Middle or Secondary; ED9-760, Individualizing Instruction; ED9-820, Evaluation of Classroom Learning; ED9-810, Principles of Cirriculum Development; ED9-110, Law for the Teacher.

Elective courses (3-12 credits). Approved courses in candidate's major content area: Public School Administration; Community Education course; Adult Education course; and Independent Study.

Comprehensive Examination — In the last semester of his course work, the candidate will submit and defend a report on an approved subject.

Master of Education
Concentration in Urban Education

Admission Requirements: General admission requirements.

Required Courses: Education Foundation Courses (9 credits) and five courses in the Urban dimension. The sequence and distribution will be established on an individual basis, depending upon the background and interests of the candidate.

Elective Courses: Students will select, with the approval of the advisor, electives which meet the interests and needs of the candidate.

Licensure Program Certification for the Generic Special Teacher of Children with Mild Special Needs

Requirement(s) for Admission to the Program: General admission requirements; Teaching certificate in Elementary, Secondary, or Special Education; Two years full-time teaching experience; Graduate of an accredited college with a Master's degree.

Pre-requisite courses: Child Growth and Development; Learning Theory; Education Measurement and Evaluation; Developmental Reading or their equivalent.

Substitution of courses may be approved by the advisor.

Required Courses:

*1. Developmental Patterns of Children with Special Needs
*2. Analysis and Interpretation of Children's Behavior and Learning Environment
*3. Development and Implementation of an Individualized Educational Plan for Children with Special Needs
4. Classroom Management Techniques for Children with Special Needs
5. Normal Development of Speech and Language
*6. Program Development and Evaluation for the Generic Special Teacher
*7. Consulting and Interpersonal Skills for the Generic Special Teacher
*8. Practicum: Generic Special Teacher of School Age Children with Mild Special Needs (6 credits)

Total: 27 credits

**Starred courses must be taken sequentially. Number 4 and 5 may be taken at any time.*

Certification can be obtained only through a college whose Generic Special Program has been audited and approved by the State Bureau of Teacher Preparation, Certification and Placement.

Certificate of Advanced Graduate Study in Counselor Training

Admission Policy and Procedure: General admission requirements.

Candidates without a Masters Degree in Counseling must establish that they have their substantial preparation in counseling. The Program defines substantial preparation as a minimum of six graduate-level courses in the area of counseling.

Candidates must complete a written examination based on Areas I, II, III, and V, as well as an oral examination based on Area IV (above).

Students not formally matriculated in the Counselor Training program are eligible and encouraged to consider any of the courses described in the program.

Program of Study: Candidates must complete 30 credit hours in courses from the following five areas:

1. **Educational Foundations (3 credits)**

   Courses in the history, philosophy, and psychology of the educational process and/or curriculum and principles of administration.

2. **Psychological and Social Foundation (3 credits)**

   Courses in the psychodynamics of human behavior and/or the interactive influence of the personality and the societies within which it develops.

3. **Professional Skills (12 credits)**

   Counseling Skills - Courses in the theories of counseling and/or psychotherapy.

4. **Supervised Professional Experience (6 credits)**

   An internship experience utilizing counseling and appraisal skills under supervision.

Note: Candidates who have completed one year of paid full-time experience as a counselor are exempt from the Internship requirement. However, in lieu of the Internship they are required to complete a 3 credit Seminar in "Current Issues in Counseling and Guidance."

Certificate of Advanced Graduate Study in Cirriculum and Instruction

Admission Requirements: General admission requirements. Candidates must have earned 18 hours at the graduate level in the area of cirriculum and instruction and have two years of teaching experience.

Required Courses: 12 credits: ED9-815, Theories of Instruction; ED9-810, Principles of Cirriculum Development; ED9-830, Analysis of Cirriculum Programs (Prerequisites ED9-810); and ED9-830, Seminar in Curriculum and Instruction (Prerequisites: ED9-815, ED9-810 and ED9-825). Research Candidates (6 credits), either Action r Library, choose an area of research with the assistance of the Advisor. Research Projects are reviewed by the Action Research Committee or Coordinator, depending on the type of research selected.

Electives: 12 credits: Four courses selected with the approval of the advisor from the following areas: Adult Education; Community Education; Early Childhood Education; Elementary Education; Secondary Education; Special Needs; Urban Education; Educational Leadership/Administration.

Certificate of Advanced Graduate Study in Educational Administration and Leadership

Admission Requirements: General admission requirements. Students must meet with the Coordinator to determine their Program of Study. Each candidate will develop his program which will reflect the experiences of the candidate and his career goals. Although there is a minimum of thirty hours of course work, most candidates can expect to be advised to take more courses (depending on their experience in educational administration). All students must complete: ED9-195, Action Research Seminar I, and ED9-196, Action Research II; students will choose their Action Research Committee which is composed of three faculty members. This committee will advise students during their action/research effort and will conduct the student's final Comprehensive Exam based on the final project; two hardcover editions of the study must be submitted to the Concentration Coordinator.

Certificate of Advanced Graduate Study in Language Arts/Reading

Admission Requirements: All candidates must have a Master's Degree in Reading or Language Arts. For those candidates who hold a Master's Degree in other areas, a minimum of 18 semester hours in either language arts or reading is required.

Program of Study:

Required Courses

A. Courses in the three Major Areas (a minimum of one in each area - 9 credits)

1. Reading and Language Arts: Identification and Prescription for Learning Problems in Reading and Language Arts for the Gifted; Review and Research in Language Arts and Reading; Phonetics in the

Language Arts and Reading Program; Linguistics in the Language Arts and Reading Program; Seminar: Awareness and Observation of Techniques in Working with the Gifted Language Arts/Reading; Administration and Supervision of Teacher Personnel in Language Arts/Reading.

2. Language: The Study of the Development of Language: Dysfunction in Linguistic Process; The Study of Composition in the Language Arts Curriculum; The Psychology of Language; Linguistic Approaches to Language.

3. Literature: Advanced Seminar in Children's Literature; Literature for Minority Children; Psychological and Symbolic Findings in Children's Literature; Literature Alive: Using Literature and Reading for Cognitive Development; Bibliotherapeutic Implications in Children's Literature.

Note: For courses other than those listed in "A" above, permission from the advisor is required.

B. Advanced Seminar in the Language Arts/Reading: Gifted (upon completion of the 12 in A and B above) - 3 credits

C. Advanced Seminar in the Language Arts/Reading or Internship in Language Arts/Reading:

D. The following options are available for students to complete the required courses for the CAGS program.

The options are: Six credits for each option:

OPTION NO. 1

Independent Research

OPTION NO. 2

Supervised Practicum

The candidate may submit a proposal involving an innovative instructional program in Language Arts/Reading with children.

OPTION NO. 3

In-Service Projects

An in-service project in the field of Language Arts/Reading.

Guidelines for Independent Research/Supervised Practicum/In-Service Projects

a. The candidate should choose the area which will culminate in a research project or practicum in which learning modalities, teaching techniques, and the utilization of media are involved in the Language Arts/Reading/Literature areas

b. A member of the graduate faculty in Education must act as the chairperson of the student's project committee. This chairperson may or may not be the candidate's advisor.

c. The candidate and the chairperson of his project will cooperatively plan the proposal for the project.

E. Electives (9 credits)

Adult Education, Communication Disorders, Early Childhood Education, Elementary Education, English, Gifted Education, Language Arts,Learning Disabilities, Literature, Measurement and evaluation, Media/Library Science, Reading, Special Education, Supervision and/or Administration, Urban Education. Other (see advisor).

Comprehensive Examination: All candidates must complete both a written and oral examination. The written examination will be based on the two seminars and required courses. The oral examination will be based upon the independent research project or the practicum.

Certificate of Advanced Graduate Study in Secondary Education

Admissions Requirements: General admission requirements.

Requirements: Minimum of 30 credits from the following 5 areas: Education Foundations - History, Cirriculum, Philosophy, Psychology, Statistics; Secondary Education (including Adult and Community Education); non-education courses in candidate's discipline; Research Project: 6 credits. Two 9-series WSC courses, not part of master's program, may be submitted for evaluation for credit toward CAGS credit for additional courses may be sought through appeal to the Graduate Committee.

Other Programs

School Principal Certificate Program (K-6) (5-9) (9-12)

Requirements: Candidates must have a Massachusetts teaching certificate; three years of employment in the role covered by that certificate; completion of a pre-practicum consisting of 24 credits in other courses and other experiences on the graduate level as defined by Standards I-V; completion of a half practicum (150 clock hours) within one year, or an internship (300 clock hours) within two years, judged successful on the basis of the Standards.

Program Description: The School Principal Certificate Program is accredited by the Interstate Certification Compact which enables successful candidates to receive the School Principal Certification in Massachusetts.

Program Requirements:

Phase I. Core Foundation Requirements (6 credits): ED9-970, Advanced Philosophical Foundations of Education; ED9-960, Research in Education

Phase II. Concentration Requirements (15 credits): ED9-105, Public School Administration; ED9-103, Fundamentals of Public School Finance; ED9-112, Law for the Administrator; ED9-140, Curriculum Development Seminar for Administrators; ED9-190, Special Problems in Public School Administration (in area of certification).

Phase III. Certification Requirements (Level K-6 9 credits): ED9-127, Organization and Administration of the Elementary School; ED9-, Practicum in Educational Administration/Leadership.

Certification Requirements (Level 5-9 9 credits): ED9-158, Organization and Administration of the Middle and Secondary School; ED9-, Practicum in Educational Educational Administration/Leadership.

Certification Requirements (Level 9-12 30 credits): ED9-158, Organization and Administration of the Middle and Secondary School; ED9-, Practicum in Educational Administration/Leadership (9 credits).

School Principal Certification Requirements: Phase I: Core Requirements: (6 credits)

Phase II: Concentration Requirements: (15 credits)

Phase II: Certification Area (9 credits)

CAGS in Generic Special Needs

The CAGS in Generic Special Needs in designed to meet state certification requirements for a Generic Teacher.

Admission to the Program: General admission requirements; a Master's Degree in Classroom Teacher with Concentration in Special Needs, Reading, Counseling, Administration or other related areas; posses a Massachusetts Classroom Teaching Certificate; have two years of employment in the role covered by that certificate; have had a course in Child Growth and Development (or its equivalent); have had a graduate course in speech and language development (or its equivalent).

Program of Study: (30 credits): Students may select appropriate substitutes): Research in Education; Developmental Patterns of Chidren with Special Needs; Analysis and Interpretation of Children's Behavior and Learning Environment; Development and Implementation of an Individualized Educational Plan for Children with Special Needs; Classroom Management Techniques for Children with Special Needs; Program Development and Evaluation for the Generic Special Teacher; Consulting and Interpersonal Skills for the Generic Special Teacher; Practicum for the Generic Special Teacher (6 credits).

Electives: One approved course in a related area.

Health Services

Chairman: Burke

Health Studies
Physical Education
Health Studies

Professor: Burke, Read
Associate Professor: Semerjian
Assistant Professor: Chen, Munson

The Health Studies Discipline offers instruction leading to the Bachelor of Science degree in Health Education with concentrations in: School Health Education; Health Services; and Health Counseling. Each concentration has been designed to enable students to acquire the basic knowledge and skills needed to practice their chosen profession, while at the same time obtaining a broad cultural background in the humanities, social and natural sciences.

Admission Requirements: Students must have completed two or more Health courses, have a grade point average of 2.5 or better, submit a formal application and have a personal interview with a faculty panel.

Requirements for a Major: 39 credits: Variations in required and elective courses within each concentration are detailed on program of studies forms available from departmental advisors. A Health Studies Practicum is a required part of the program. Students will do field work in such areas as family planning services, crisis centers, hospitals, schools, homes for the aging, etc. Required distribution courses include: Human Anatomy and Physiology I and II, Introduction to General Psychology I and II, and Introduction to Statistics.

Graduate Program

The Master's program with a concentration in Health Education is designed to prepare teachers at the elementary/secondary level for teaching in Health Education. If a student enters with preparation equivalent to any of the courses listed below, other courses may be selected with the permission of the coordinator of the program.

Admission Requirements: General Admission Requirements.

Program Requirements: (Concentration in Health Education) Education Foundation Courses (9 credits), 15 credits of Health Education concentration courses, and 9 elective credits (three additional Health Education courses and other electives from different departments may be selected). Additional course requirements will be determined by the Program Coordinator.

Physical Education

Associate Professor: Dyson, Mockler, Nugent
Assistant Professor: Demars, Duquette, Girouard

The Physical Education program offers students participation in individual and team activities designed to develop skill, fitness and knowledge to meet immediate and life-long needs and interests. There is also a Sports Medicine Program.

Requirements for a Minor: 18 credits in Physical Education and/or Coaching courses.

Languages and Literature

Chairman: Roberts

English
Foreigh Languages

English

Professor: Ayer, Goldwyn, Herx, Johnson, Robert, Sullivan, Todd
Associate Professor: Barraford, Walker
Assistant Professor: Crowley, Eddy, Ellis, Sullivan, Wasilko
Instructor: Grandone

The principal objectives of the English Department are to help students to communicate clearly, logically, and effectively; to use research methods intelligently; and to analyze, interpret, and enjoy literature. The department also seeks to familiarize students with the classics of world literature, emphasizing the major authors, works and literary movements which distinguish English and American literature.

Requirements for a Major: 36 credits in English (exclusive of EN-100, EN-101, or EN-102). Required courses are: Survey of American Literature I and II (EN-110 or 111), Survey of English Literature (EN-120 and EN-121), and Shakespeare I (EN-420). They must also take eight additional English electives, selected with the assistance of an advisor. An English major should maintain a 2.5 quality point average in English courses.

Requirements for a Minor: 18 credits of English courses (exclusive of EN-100 (English for Communication Skills), EN-101 (English Composition I), or EN-102 (English Composition II). Required: Survey of American Literature I or II (EN-110 or EN-111); Survey of English Literature I and II (EN-120 and EN-121); and three English electives.

English Majors or Minors may also pursue a Concentration in Writing by taking English Composition I and II and eighteen credits in English electives.

Graduate Program

The department offers a variety of graduate courses designed to respond to a wide spectrum of personal, community, academic, and professional needs. The concentration program provides training for careers in teaching, research, writing, editing, journalism, government service and related fields.

Admission Requirements: General admission requirements, and must have earned 18 credits in English taken at an accredited institution of higher education.

Course Requirements: Education Foundation Courses (9 credits); English Concentration Courses (18 credits) selected with the approval of the advisor. Elective Courses (6 credits), selected, with the approval of the advisor, and two additional courses in a related area.

Foreign Languages

Professor: Alcala, Shea
Associate Professor: Celona, DeBenedictis, Kittredge

The major in Foreign Languages is designed for the student whose interests and career plans have an international or multi-ethnic focus. The student who majors or minors in a language can expect to develop speaking, reading and writing fluency. Majors will study in depth the culture, history and literature of the people who use the language.

Requirements for a Major: 36 credits in Foreign Language courses including: 15 credit hours of 300 or 400 level courses in the first language, 6 credit hours of 300 or 400 level courses in the second language, and the remainder to be taken from any courses in the discipline including Foreign Language courses, subject to the advisor's approval.

Major in French: 33 credits in French, including: Fr-100-299, Beginning and Intermediate French (6 credit hours Maximum); Fr-320-329, Advanced French Language courses (9 credit hours minimum); Fr-330-339, French civilization courses (3 credit hours minimum); Fr-340-359, French Literature courses (9 credit hours minimum); and a minimum of 6 credit hours in a second foreign language.

Minor in French: 18 credits in French, including: FR-100-299, Beginning and Intermediate French courses (12 credit hours maximum); and FR-300-499, Advanced French courses (6 credit hours, minimum).

Major in Spanish: 33 credits in Spanish including: Sp-100-299, Beginning and intermediate Spanish (6 credit hours maximum, optional); Sp-320-329, Advanced Spanish language courses (9 credit hours, minimum); Sp-330-339, Spanish civilization courses (3 credit hours minimum); Sp-340-359, Spanish literature courses (9 credit hours, minimum); and a minimum of 6 credit hours in a second foreign language.

Minor in Spanish: 18 credits in Spanish including: Sp-100-299, Beginning and Intermediate Spanish courses (12 credit hours maximum); and Sp-300-499, Advanced Spanish courses (6 credit hours minimum).

Graduate Program

General Admission Requirements; every candidate must have an adequate command of spoken and written Spanish.

Requirements for a Master of Education with a Concentration in Spanish: Students must complete: Education Foundation Courses: (9 hours); four courses from his field of specialization: Socio-cultural Studies or Literature (18 credits) and, two electives chosen from any of the two groups listed below:

Socio-cultural studies: Sp-8-322, Contemporary Spain; Sp 8-321, The Hispanic World Today; Sp 8-323, History and Culture of Puerto Rico; Sp 8-324, The Latin Americans in USA; Sp 8-325, Travel Study Course; Sp 8-320, Spanish Summer Institute; Sp 9-326, Seminario Intercultural.

Literature: Sp 9-330, Spanish Novel of the 19th and 20th centuries; Sp 9-331, Latin American Novel of 19th and 20th centuries; Sp 9-332, Hispanic Theater; Sp 9-333, Contemporary Spanish Novel; Sp 9-334, Contermporary Latin American Novel; Sp 9-335, Literature of Spanish Gold Age; With approval of the Coordinator, every candidate must take two additional courses in Education, chosen from the courses listed below or from related courses offered by the Education Department: Linguistics; The Psychology of Learning a Second Language and Derived Methodologies; The Understanding and Teaching of Culture; ESL Methodologies; Foundation of Bilingual-Bicultural Curriculum; Methods and Materials in the Bilingual Program; Every candidate must take a written comprehensive exam or complete an additional course in Socio-cultural Studies or Literature.

Management and Urban Studies

Chairman: Juralewicz

Economics
Management
Urban Studies

Economics

Professor: Choi, Kelley
Assistant Professor: Trimby

Economics offers a major program for those students who wish to prepare for careers as economists in various government agencies, non-profit and industrial organizations, and in academic institutions. Since it is frequently necessary to obtain additional training to qualify as a professional economist, the major program is designed to prepare students for such advanced study.

Requirements for a major: 30 credits: Ec 100, Introduction to Macroeconomics; Ec 101, Introduction to Microeconomics; Ec 200, Macroeconomics; Ec 201 Microeconomics; Ec 207, Statistics. The remaining 15 or more hours may be chosen from economics electives in accordance with special interests and career objectives.

Requirements for a minor: 18 credits: Ec 100, Introduction to Macroeconomics; Ec 101, Introduction to Microeconomics; and any other four economics courses.

*Management

Professor: Bornfriend, Downey, Hartwig, Juralewicz, Masterson, Stephanini
Assistant Professor: Harris, Joyal, McEachern

The management program enables participants to acquire competencies necessary to manage the human, financial, and technological resources of organizations. The major offers concentrations in Business Administration, Public Administration, and Health Administration. Within the Business Administration concentration, specializations in Human Resource Development, Production/Operations Management and Accounting/Finance are available.

Admission Requirements: An application to the department after completion of pre-management courses (Ma-115, 302, 250, Cs-111, 231 or 280, Mg-110, 111). Bases for acceptance are: performance in pre-management courses ("C" avearge); experience in management or demonstration of special related knowledge and unusual high motivation to succeed in management.

Requirements for a Major in Management with a Concentration in Business Administration: Common Management Core Courses: 45 credits: Ur-101, Introduction to Urban Systems; Mg-200, Fundamentals of Management and Organizational Behavior; Mg-300, Problem-Solving in Organizations; Mg-305, Organizational Dynamics; Mg-310, Managerial Accounting and Budget; Mg-315, Quantitative Analysis and Information Systems; Mg-361, Public Management or Mg-450, Health Systems in America; Mg-403, Financial Management I; Mg-405, Marketing I; Mg-480, Current Challenges to Management; Mg-490, Administrative Strategy: Formulation and Implementation; also any other five upper level management courses (i.e., 15 credits) not listed above.

Requirements for a Major in Management with a Concentration in Business Administration, Specialization: Accounting/Finance: 45 credits: Students must complete the 11 common management core courses (i.e., 33 credits) listed within major; Management, Concentration: Business Administration; also any 5 courses (i.e., 15 credits) selected from among the following: Mg-320, Business Law I; Mg-321, Business Law II; Mg-371, Intermediate Accounting I; Mg-372, Advanced Accounting I; Mg-373, Advanced Accounting II; Mg-374, Cost Accounting; Mg-375, Federal Income Taxation; Mg-376, Auditing; Mg-404, Financial Management II; Mg-415, Security Analysis I; Mg-416, Security Analysis II; Mg-474, Corporate Law.

Requirements for a Major in Management with a Concentration in Business Administration, Specialization: Organizational Behavior: 48 credits: Students must complete the 11 common management core courses (i.e., 33 credits) listed within the major: Management, Concentration: Business Administration: also any 5 courses (i.e., 15 credits) selected from among the following: Mg-306, Principles of Personnel Management; Mg-400, Management and Organizational Behavior I; Mg-401, Management and Organizational Behavior II; Mg-430, Administrative Practices and Management I; Mg-431, Administrative Practices and Management II; Mg-482, Selected Topics in Business Administration; Mg-486, Internship in Business Administration.

Requirements for a Major in Management with a Concentration in Business Administration, Specialization: Production/Operations Management: 48 credits: Students must complete: the 11 common core management courses (i.e., 33 credits) listed within major: Management, concentration: Business Administration; also any 5 courses (i.e., 15 credits) selected from among the following: Mg-407, Production Management I; Mg-408, Production Management II; Mg-409, Quantitative Analysis and Tech. I: Linear for Administration; Mg-410, Quantitative Analysis and Tech. II: Stochastic Model for Administration; Mg-482, Selected Topics in Business Administration; Mg-486, Internship in Business Administration.

Requirements for a Major in Management with a Concentration in Public Administration: 45 credits: Students must complete: Ur-101, Introduction to Urban Studies; Mg-200, Fundamentals of Management and Organizational Behavior; UR-210, Analysis of Urban Systems; Mg-305, Organizational Dynamics; Mg-310, Managerial Accounting and Budget; Ur-311, Urban Politics; Ur-320, Human Needs and Social Services; Mg-360, Public Program Analysis; Mg-361, Public Manage

ment; Mg-460, Law of the Government Administration; Mg-462, Employee Relations - Public Sector; Mg-464, Government Budgeting Systems; Mg-665, Practicum in Public Administration; also any 3 courses (i.e., 9 credits) selected from among the following: Mg-374, Cost Accounting; Mg-375, Federal Income Tax; Mg-430, Admin. Practices and Management I; Mg-431, Admin. Practices and Management II; Mg-482, Selected Topics in Public Administration; Mg-484, Internships in Public Administration.

Requirements for a Major in Management with a Concentration in Health Administration: 48 credits: Students must complete: Mg-200, Fundamentals of Management and Organizational Behavior; SO-210, Medical Sociology; Mg-305, Organizational Dynamics; Mg-310, Managerial Accounting and Budgeting; Mg-315, Quantitative Analysis and Information Systems; Mg-403, Financial Management I; Mg-450, Health Systems in America; Mg-492, Selected Topics in Health Administration; Mg-483, Internship in Health Administration; also any other 7 upper level Management courses (i.e., 21 credits).

Requirements for a Minor: 39 credits: Students must complete all 7 pre-management courses plus the following: Mg-200, Fundamentals of Management and Organizational Behavior; Mg-300, Problem Solving in Organizations; Mg-305, Organizational Dynamics; Mg-310, Managerial Accounting and Budgeting; Mg-315, Quantitative Analysis and Information Systems; plus any 400 level management elective (3 credits).

Certificate Programs

Requirements for a Certificate in Management and Supervision: Students must complete: Mg 8-200, Principles of Management and Organizational Behavior; Mg 8-300, Techniques of Problem Solving in Organization; Mg 8-306, Organization and Human Dynamics; Mg 8-400, Budgetary Management for Admin.; Mg 8-410, Computer Utilization in Management Settings; also two additional courses (6 credits) at the 8000 level related to the participant's Functional Job Specialty: such as: Economics, Computer Science, Management, Media, or Adult Education.

Requirements for a Certificate in Small Business Management: Students must complete: Mg 8-100, Seminar in Small Business Management; Mg 8-200, Principles of Management and Organizational Behavior; Mg 8-400, Budgetary Management for Admin.; Mg 8-410, Computer Utilization in Management Settings; Mg 8-420, Developing Financial Management for Small Business; and any 2 courses (6 credits) from among the following: Mg 8-425, Industrial Management for Small Business; Mg 8-430, Marketing for Small Business; Mg 8-500, Selected Topics in Small Business.

Requirements for a Certificate in Accounting: Students must complete: Mg-200, Fundamentals of Management and Organizational Behavior; Cs-170, Computer Programming with Cobol; Ma-250, Introduction to Statistics I; Mg-370, Intermediate

Accounting I; Mg-374, Cost Accounting; Mg-376, Auditing; Mg-320, Business Law; Mg-375, Federal Income Tax; and for participants without a related undergraduate degree: Mg-110, Introduction to Accounting I; and Mg-111, Introduction to Accounting II.

Requirements for a Certificate in Public Administration: Po-110, American Government; Mg-110, Introduction to Accounting I; En-304, Technical Writing; Ma-250, Introduction to Statistics I; Mg-361, Public Management; Mg-462, Employee Relations in the Public Sector or Mg 8-175, Labor Relations and Collective Bargaining; and any 2 courses (6 credits) selected from among the following: Mg-360, Public Program Analysis; Mg-460, Law for Government Administration; Mg-464, Government Budgeting Systems; Mg-485, Practicum in Public Administration.

Urban Studies

Professor: Farrey, Langlois
Associate Professor: Power, Powers
Assistant Professor: Amory

Urban Studies is a professional program employing both classroom and community experience as part of an intensive educational model involving students and faculty. A multi-disciplinary field, Urban Studies is designed for the student interested in urban-based careers in public management, planning, law, human and health service management, social work, youth services, gerontology, and criminal justice.

Requirements for a Major: 36 credits in courses with numbers between Ur-101 and Ur-439. Experiential courses in internship and practicum count for degree credit above the required 36 credits in formal classroom courses.

Concentration in Gerontology: Students are required to take 21 credits in course and field experience. Three courses are required as are 6 credits in field experience. The remaining credits must be completed from a list of selected courses; required are: Ur-325, Social Casework in the Urban Setting; two courses offered by participating institutions in the Worcester Consortium for Higher Education and two additional courses selected from the following: Ur-201, Analysis of Urban Systems; Ur-340, Urban Housing Dilemma; Ur-341, Urban Health and Social Service Systems; Ur-411, Assigned Readings in Urban Studies; He-415, Aging, Death, and Suicide Education; Nu-440, Nursing in Primary Care; So-207, Sociology of the Family; So-210, Medical Sociology: and six field credits in field practicum.

Concentration in Health and Human Services: Students are required to take: Ur-101, Introduction to Urban Systems; Ur-212, American Metropolitan Evolution;

Ur-213, Human Identity in the Urban Environment; Ur-401, Research Seminar in Urban Studies; Ur-320, Human Needs and Social Services; UR-341, Urban Health and Social Service Systems.

Concentration in Public Service and Urban Community Planning: Students must take: Ur-101, Introduction to Urban Systems; Ur-212, American Metropolitan Evolution; Ur-213, Human Identity in the Urban Environment; Ur-401, Research Seminar in Urban Studies; Ur-310 or Ur-311, Power, Politics and Decision-making in Urban Communities or Community Politics and Policies; Ur-370, Structure and Function of Urban Organizations.

Requirements for a Minor: 18 credits: All students must complete the following: Ur-101, Introduction to Urban Systems; Ur-212, American Metropolitan Evolution; Ur-213, Human Identity in the Urban Environment; and any other three Ur-300 level courses.

Graduate Program

Master of Human Service Management

Admission Requirements: General admission requirements: Applicants will be individually interviewed by the department and selected on the basis of motivation, career goals, and established experience in the Human Service field.

Degree Requirements: Students are expected to complete thirty-six graduate credits to satisfy the program requirements. Twenty-one credits or seven courses have been designed as core requirements: HSM/UR 9400, Leadership Skills and Social Group Work; HSM/UR 9420, Organizational Theories and Effective Intervention Practices; HSM/UR 9440, Politics, Public Policy, and the Human Services; HSM/MG 9440, Financial Management for Non-Profit Organizations; HSM/MG 9460, Seminar in Program Analysis and Evaluation; HSM/UR 9480, Advanced Supervision Skills; HSM/CS 9490,Strategic Decision Making and Computer Systems.

Any two of the following courses may be used to satisfy the elective courses; other courses may be taken with the prior approval of the advisor: HSM/MG, Public Law; HSM/UR 9320, Practices in Community Organization; HSM/MG 9910, Unions and the Public Sector; HSM/MG 9300, Communications for Effective Management; HSM/MG 9950, Accounting and Budgeting for Public Management; HSM/MG 9930, Marketing in Non-Profit Organizations; HSM/CS 9970, Statistical Methods for Management Decisions; HSM/MG, Personnel Management for Non-Profit Institutions.

*Mathematics and Computer Science

Chairman: Schoen

Professor: Glassbrenner, Hilton, Perry, Redding, Schoen, Zax
Associate Professor: Campo, Hayes, Hill
Assistant Professor: Avedikian, Johnson, Kotzen, Mulcahy

The department prepares its students for advanced study and research as well as for careers in actuarial science, business and industry, government and teaching. The graduate program offers various options in specific areas of mathematics and computer science which increase the level of knowledge and experience of the students.

Admission Requirements: Good SAT scores, adequate high-school background with at least average grades in mathematics/computer science courses.

Requirements for a Major - Mathematics with a Concentration in Actuarial Science Programs: 36 credits: Ma-300, Calculus I; Ma-301, Calculus II; Ma-310, Calculus III; Ma-220, Discrete Mathematics; Ma-370, Introduction to Actuarial Science; Ma-375, Life Contingency; Ma-440, Introduction to Numerical Analysis; Ma-380, Probability; Ma-381, Statistics; three credits of mathematics electives (excluding Ma-100, Ma-115, Ma-130 and Ma-131).

Requirements for a Major - Mathematics with a Concentration in Business and Finance: 42 credits: Ma-300, Calculus I; Ma-301, Calculus II; Ma-310, Calculus III; Ma-225, Business Mathemaics; Ma-250, Introduction to Statistics I; Ma-251, Introduction to Statistics II; Ma-325, Introduction to Quantitative Methods; Ma-140, Problem Solving; Ma-220, Discrete Mathematics; and five credits from the following: Ma-305, Abstract Alegebra; Ma-320, Ordinary Differential Equations; Ma-330, Linear Algebra; Ma-340, Modern Geometry I; Ma-341, Modern Geometry II; Ma-350, History of Mathematics; Ma-360, Number Theory; Ma-370, Introduction to Actuarial Science; Ma-375, Life Contingency; Ma-380, Probability; Ma-381, Math. Statistics; Ma-401, Advanced Calculus I; Ma-411, Advanced Calculus II; Ma-415, An Introduction to Partial Differential Equations; Ma-430, Topology; Ma-440, Introduction to Numerical Analysis; Ma-441, Numerical Methods; Ma-450, Complex Variables.

Requirements for a Major in Mathematics with a Concentration in Computer Science: 42 credits: Cs-111, Programming Languages I; Cs-112, Programming Languages 2; Ma-110, College Algebra or Ma-300, Calculus I; Ma-220, Discrete Mathematics; Cs-231, Business Programming 1 or Cs-250, Scientific Programming 1; Cs-310, Computer Organization and Assembler Language Programming or Cs-320, Micro, Mini Computers; Ma-301, Calculus II; Ma-310, Calculus III; 18 credits from the following selections: Cs-130, Pascal Language Programming; Cs-210, Data Communications Systems; Cs-232, Business Programming 2;

Cs-233, Business Programming 3; Cs-234, Business Programming 4; Cs-280, Discrete Simulation and Modeling Techniques; Cs-361, Data Structures and Algorithms; Cs-375, Business Systems Analysis and Design; Cs-380, Systems Programming; Cs-450, Management and Information Systems; Cs-251, Scientific Programming 2; Cs-315, Digital Logic Circuits; Cs-325, Comparative Computer Languages; Cs-350, Computer Architecture and Operating Systems; Cs-370, Compiler Design; Cs-410, Digital Computer Organization Cs-430, Analysis of Algorithms; Cs-440, Computability and Finite Automata; Ma-325, Introduction to Quantitative Methods; Ma-441, Numerical Methods; Ma/Cs-498, Internship; Ma/Cs-499, Independent Study; Py-250, Instrumentation and Electrical Measurement; Py-260, Analog and Digital Electronics 1; Py-261, Analog and Digital Electronics 2; Py-390, Solid State Electronics; and nine credits from the following: Ma-305, Abstract Algebra; Ma-320, Ordinary Differential Equations; Ma-325, Introduction to Quantitative Methods; Ma-330, Linear Algebra; Ma-340, Modern Geometry I; Ma-341, Modern Geometry II; Ma-350, History of Mathematics; Ma-360, Number Theory; Ma-370, Introduction to Actuarial Science; Ma-375, Life Contingency; Ma-380, Probability; Ma-381, Math. Statistics; Ma-401, Ring Theory; Ma-410, Advanced Calculus I; Ma-411, Advanced Calculus II; Ma-415, An Introduction to Partial Differential Equations; Ma-430, Topology; Ma-440, Introduction to Numerical Analysis; Ma-441, Numerical Methods; Ma-450, Complex Variables.

Requirements for a Major - Mathematics with a Concentration in Liberal Arts: (21 Credits): Students must complete: Ma-300, Calculus I; Ma-301, Calculus II; Ma-220, Discrete Mathematics; Ma-310, Calculus III; nine credits of Mathematics electives (excluding Ma-100, Ma-115, Ma-130, and Ma-131); and nine credits from the following: Ma-305, Abstract Algebra; Ma-320, Ordinary Differential Equations; Ma-325, Introduction to Quantitative Methods; Ma-330, Linear Algebra; Ma-340, Modern Geometry I; Ma-341, Modern Geometry II; Ma-350, History of Mathematics; Ma-360, Number Theory; Ma-370, Introduction to Actuarial Science; Ma-375, Life Contingency; Ma-380, Probability; Ma-381, Math Statistics; Ma-401, Ring Theory; Ma-410, Advanced Calculus I; Ma-411, Advanced Calculus II; Ma-415, An Introduction to Partial Differential Equations; Ma-430, Topology; Ma-440, Introduction to Numerical Analysis; Ma-441, Numerical Methods; Ma-450, Complex Variables.

Requirements for a Major - Mathematics with a Concentration in Professional Preparation for Engineering and Architecture: 27 credits: Students must complete: Ma-300, Calculus I; Ma-301, Calculus II; Ma-310, Calculus III; Ma-220, Discrete Mathematics; Ma-320, Ordinary Differential Equations; Ma-334, Statistics; Ma-336, Dynamics; Ma-338, Surveying; and six credits from the following: Ma-305, Abstract Algebra; Ma-325, Introduction to Quantitative Methods; Ma-330, Linear Algebra; Ma-340, Modern Geometry I; Ma-341, Modern Geometry II; Ma-350, History of Mathematics; Ma-360, Number Theory; Ma-370, Introduction to Actuarial Science; Ma-375, Life Contingency; Ma-380, Probability; Ma-381, Math. Statistics; Ma-401, Ring Theory; Ma-410, Advanced Calculus I; Ma-411, Advanced Calculus II; Ma-415, An Introduction to Partial Differential Equations; Ma-430, Topology; Ma-440, Introduction to Numerical Analysis; Ma-441, Numerical Methods; Ma-450, Complex Variables.

Requirements for a Major - Mathematics with a Minor in Secondary Education: 48 credits: Students must complete: Ma-300, Calculus I; Ma-301, Calculus II; Ma-310, Calculus III; Ma-220, Discrete Mathematics; Ma-110, College Algebra; Ma-120, College Trigonometry; Ma-170, Analytic Geometry; Ma-140, Problem Solving; and eight credits from the following: Ma-305, Abstract Algebra; Ma-320, Ordinary Differential Equations; Ma-325, Introduction to Quantitative Methods; Ma-330, Linear Algebra; Ma-340, Modern Geometry I; Ma-341, Modern Geometry II; Ma-350, History of Mathematics; Ma-360, Number Theory; Ma-370, Introduction to Actuarial Science; Ma-375, Life Contingency; Ma-380, Probability; Ma-381, Math Statistics; Ma-401, Ring Theory; Ma-410, Advanced Calculus I; Ma-411, Advanced Calculus II; Ma-415, An Introduction to Partial Differential Equations; Ma-430, Topology; Ma-440, Introduction to Numerical Analysis; Ma-441, Numerical Methods; Ma-450, Complex Variables.

Requirements for a Minor - Computer Science: 18 credits in Computer Science, excluding CS-101 and including MA-440, MA-220, MA/CS-498 Internship.

Requirements for a Minor-Mathematics: 16 credits: Ma-220, Discrete Mathematics; Ma-300, Calculus I; Ma-301, Calculus II; and seven credits in Mathematics electives (excluding Ma-100).

Graduate Program

Admission Requirements: General admission requirements and the full Calculus sequence and Discrete Mathematics and prerequisites for all students pursuing graduate programs in Applied Mathematics or a concentration in Mathematics. In addition, at least two introductory courses in Computer Science are required for Applied Mathematics.

Requirements for a Master of Education with a Concentration in Computer Science: The Education Foundation Courses (9 hours) candidates must select, with the approval of his advisor, five courses in Computer Science from the following: Cs 8-200, Computer Programming with Fortran IV; Cs 9-220, Advanced Fortran; Cs 8-250, Computer Programming with Cobol; Cs 9-275, Advanced Cobol; Cs 8-300, Using the Statistical Package for the Social Sciences; Cs 9-300, Applied Information Systems; Cs 9-100, Numerical Methods using Computers; Cs 9-990, Seminar in Computer Science; and a student must select, with the approval of his advisor, three additional courses in Education.

Requirements for a Master of Applied Mathematics with a Concentration in Computer Science or Applied Mathematics:

For the Concentration in Computer Science: Education Foundation Courses (9 credits) and six courses from the following: Cs 9-220, Advanced Fortran; Cs 8-275, Fundamentals of System Analysis; Cs 8-278, RPG Programming; Cs 9-100,

Numerical Methods Using Computers; Cs 9-275, Advanced Cobol; Cs 9-290, Higher Level Programming in Pascal; Cs 9-291, Higher Level Programming in APL; Select two courses from the following: Ma 8-380, Probability; Ma 8-390, Statistics; Ma 8-568, Special Problems in Math; Ma 8-600, Ordinary Differential Equations; Ma 9-301, Linear Algebra; Ma 9-375, Life Contingencies; Ma 9-395, Multiple Regression.

For the Concentration in Applied Mathematics: Education Foundation Courses (9 credits) and six courses from the following: Ma 8-380, Probability; Ma 8-390, Statistics; Ma 8-568, Special Problems in Math; Ma 8-600, Ordinary Differential Equations; Ma 9-301, Linear Algebra; Ma 9-370, Theory of Interest; Ma 9-375, Life Contingencies; Ma 9-395, Multiple Regression; Select two courses from the following: Cs 9-220, Advanced Fortran; Cs 8-275, Fundamentals of Systems Analysis; Cs 8-278, RPG Programming; Cs 9-100, Numerical Methods for Using Computers; Cs 9-275, Advanced Cobol; Cs 9-290, Higher Level Programming in Pascal; Cs 9-280, Assebler Language: IBM 360/370; Cs 9-291, Higher Level Programming in APL. Students must also select three courses as electives which must be approved by his advisor.

Requirements for a Master of Education with Concentration in Mathematics: The Education Foundation Courses (9 hours) and three of the following: Ma 9-500, Complex Variables; Ma 9-100, Analysis I; Ma 9-400, Abstract Algebra; Ma 9-301, Linear Algebra. A student must select, with the approval of his advisor, two additional courses from the following: Ma 8-400, Number Theory; Ma 9-301, Linear Algebra; Ma 8-600, Ordinary Differential Equations; Ma 9-200, Analysis II; Ma 8-200, Topics in Geometry; Ma 8-380, Probability; Ma 8-390, Statistics; Ma 8-700, History of Mathematics; Ma 8-568, Special Problems in Mathematics; a student must select, with the approval of his advisor, three additional courses in Education.

Certificate Program

Requirements for a Certificate in Data Processing: Students must complete the following: Cs 8-230, Programming in Pascal; Cs 8-250, Cobol Language Programming; Cs 8-278, RPG Programming; Cs 8-420, Management of Data Processing; Cs 8-275, Fundamentals of Systems Analysis; Cs 8-400, Data File Structures; and any three of the following: Cs 8-450, Seminar in Data Processing; Cs 8-200, Computer Programming with Fortran IV; CS8-300, Using the Statistical Package for the Social Sciences; Cs 8-425, Information Systems; Mg 8-410, Computer Utilization in Management Settings; Cs 8-430, Systems Simulations; Cs 9-220, Advanced Fortran; Cs 9-275, Advanced Cobol; Cs 9-100, Numerical Methods Using Computers; Cs 9-280, Assembler Language IBM 360/370; HSM/CS 9-490, Strategic Decision Making and Computer Systems.

Natural and Earth Sciences

Chairman: Chapman

Biology
Chemistry
Geography
Natural Science and Physics

Biology

Professor: Boger, Chauvin, Holle, Paracer, Roberts
Associate Professor: Eager, Graham, Masterson, Russell, Thurston

The faculty in the life sciences offers courses and programs to provide for the general education of students and preparation of BA/BS major and minor in Biology. In addition it also offers graduate courses towards MA/MS/M/ED degree programs. The biology courses may also be supplemented with courses in: 1) Nuclear Medicine Technology; 2) Administrative Studies; 3) Health Education; 4) Sports Medicine and 5) Public Health Biology.

Requirements for a Major: 30 credits: A biology major is required to complete General Botany and General Zoology, and a minimum of two of the following: Genetics, Principles of Ecology, Microbiology, and Introduction to Cell Biology. In addition the Biology major must pass Biology Seminar (2 credits) and a minimum of five additional courses from among the designated upper-division electives, four of which must be laboratory courses, with the advice and consent of a Biology faculty advisor. A grade point average of 2.0 must be maintained in biology courses; and in the ancillary science and mathematics courses. Students considering graduate and professional work should take courses in the ancillary sciences; minimum recommended: general and organic chemistry, general physics, calculus, introduction to computer science and/or statistics. Biology elective courses include: Microtechniques, Biological Techniques, Invertebrate Zoology, Entomology, Parasitology, Marine Biology, Field Biology, Mycology, Plant Physiology, Molecular Biology, Histology, Embryology, Endocrinology, Comp. Animal Physiology, Mammalian Physiology, Environmental Physiology, Vertebrate Natural History: Ectotherm, Wildlife Investigational Techniques, Radiation Biology, Comparative Vertebrate Anatomy, Immunology, Biological Problems, and Biology Internship.

Requirements for a Minor: (24+ credits): General Botany and General Zoology, and a minimum of two of the following courses: Genetics, Principles of Ecology, Microbiology, and Introduction to Cell Biology. In addition, the minor must complete two additional 3 or 4 credit courses from among the designated upper division electives with the advice and consent of a Biology faculty advisor, and a minimum of 6 credit hours in the ancillary sciences.

Requirements for a Biology Major - Education Minor: 26 credits: Students who wish to prepare for a certification to teach in the secondary schools must also complete a minor in education. A biology major - education minor must have the approval of the departments of Biology and Education. Eligibility for student teaching requires: Biology (a minimum of 6 approved courses with a minimum average of 2.0); Mathematics (a minimum of 6 approved credits in Statistics, Algebra, Trigonometry, Analytical Geometry, Calculus or Computer Science); Chemistry (8 credits minimum); General Physics or Physical Science (6 credits minimum); and a minimum average of 2.0 in Mathematics, Chemistry and Physics or Physical Science courses combined. Students eligible for student teaching must petition the department for admission.

Concentration in Nuclear Medicine Technology: 49 credits: The department also offers a concentration in Nuclear Medicine Technology, in conjunction with the University of Massachusetts Medical School, administered by a Program Advisory Committee. Nuclear Medicine is a study of techniques developed in hospitals, particularly in radiology, pathology, and internal medicine departments. These procedures are used for both diagnostic and therapeutic purposes. Students who are interested in being considered as a candidate for admission to the Nuclear Medicine Technology Program should contact either the Program Coordinator or the Nominating Committee through the WSC Academic Advising Office. The program is limited to a relatively few students; a competetive academic background in scientific methods, physics and mathematics is required. The technical specialty courses of a NMT Program consist of the thirteen courses listed below: Introduction and Hospital Orientation - 0 credits; Medical Terminology - 2 credits; Calculus I - 4 credits; Radiation Physics - 3 credits; Radiation Biology - 3 credits; Nuclear Instrumentation I Physics - 4 credits; Nuclear Instrumentation II - Physics - 4 credits; Clinical Practicum I - Biology - 10 credits; Clinical Practicum II - Biology - 4 credits; Clinical Practicum II - Biology - 4 credits; Fundamentals of Radio-chemistry and Radiopharmaceuticals - 4 credits; Clinical Nuclear Medicine Technology I - Biology - 4 credits; Clinical Nuclear Medicine Technology II - Biology - 3 credits.

Graduate Program

The Master of Arts/Master of Science degree program is designed to broaden the matriculant's understanding of the biological sciences and to prepare him for professional careers and doctoral study.

Admission Requirements: General admission requirements: The program is open to all who possess a substantial background at the undergraduate level. The applicant must have an average of 3.0 in all course work within his major taken at the junior and senior collegiate level.

Program of Study for the Degree: Education Foundation courses 9 credits: Seminar in Biology, 3 credits; five core (9-005-095) Biology courses: 15 credits; Approved elective courses: 9 credits minimum.

Foreign Language, Computer Science, Statistics

Reading competency in a language other than the candidate's native tongue or computer science proficiency or statistics proficiency is required. The Graduate Study Foreign Language Test (ETS) is the testing tool for foreign language competency for the Master of Arts degree. The minimum acceptable passing score for fulfillment of the language competency is 450. Students electing to satisfy computer science or statistics proficiency must meet the requirements established by the Biology Department in conjunction with the Department of Mathematics and the Computer Science Department. Proficiency will be determined by the candidate's performance on a competency examination certified by his guidance committee or by the completion of a program of study (approved by the guidance committee) with a minimum grade of B.

Students completing this program receive either the Master of Arts or Master of Science degree depending on the following:

Master of Science

A satisfactory paper based on intensive study and review of the scientific literature or an approved practicum. The final copy of the paper, following approval by the Chairman of the candidate's guidance committee, will be evaluated by the entire guidance committee: 1-6 credits.

Master of Arts

Thesis Research 1-6 credits. Original research will be undertaken by the candidate in Biology. The thesis will be defended by the candidate in an oral examination conducted by the Biology faculty.

Master of Education Concentration in Biology

This program is designed to expand the knowledge of the principles of the biological sciences. The concentration seeks to coordinate and integrate professional graduate work in education with advanced study in Biology.

Prerequisite(s) for Admission to the Concentration: Applicants must have a minimum of twenty-four collegiate credits in Biology and a minimum of eighteen credits in the ancillary sciences (Chemistry, Physics, and Mathematics).

Program of Study for the Concentration: Education Foundation courses (9 credits); and Biology Concentration Courses 18 credits; 1) Seminar in Biology: 3 credits; 2) Three approved courses from the core 9-000 level group, i.e., those numbered below 9-000; 3) Two approved electives from Biology and Chemistry; 4) Elective Courses: 6 credits; 5) Nine additional Education credits.

Certificate in Nuclear Medicine Technology

Admission Requirements: Baccalaureate degree from an accredited institution and successful completion of the following courses (or equivalent): Anatomy and Physiology I and II; General Chemistry I and II; General Physics I and II; Mathematics I, II and III (including Calculus).

The Certificate Program demands full-time study for one year. Students must devote 40 hours or more each week for 50 weeks to on-the-job training and classroom instruction beginning on July 1. Courses are taught at the University of Massachusetts Medical Center. Supervised practicum experiences are completed at the Medical Center and affiliated Worcester hospitals. The following 38 credits are required: Hospital Orientation O; BI/PY 451 & 452 Nuclear Instrumentation I and II 4 (each); BI/CH-453, Radiopharmaceuticals I 4; BI 454, Clinical Practicum I 10; BI 455 and 456 Clinicial Practicum II and III 4 (each); BI/CH 457 & 458 Clinical Nuclear Medicine Technology I and II 4 (each).

Chemistry

Professor: Merken, Zoll
Associate Professor: Cooper, Ferguson
Assistant Professor: Wheaton

Chemistry provides education and training in chemistry to students whose interests in the field range from a desire to learn something about it as part of their general education to an intent to pursue a career in chemistry, such as industrial chemistry, or a related field such as medicine, physics, biology, allied health, and environmental science.

Requirements for a Major: 32 credits: All students must complete the following: Ch-120, Ch-121, General Chemistry I and II; Ch-201, Organic Chemistry I (lectures; Ch-203, Organic Chemistry Laboratory I; Ch-210 or Ch-470, Chemical Analysis: An Introduction to Modern Methods or Instrumental Analysis; Ch-301, Physical Chemistry I (lecture) Ch-303, Physical Chemistry Laboratory I; Ma-300, Ma-310, Calculus I and II; Py-120, Py-121 or Py-115, Py-116, Physics I and II (with laboratory) or General Physics I and II (with laboratory); 8 additional semester hours may be chosen from among: Ch-202, Organic Chemistry II (lectures), Ch-204, Organic Chemistry Laboratory II, Ch-210, Chemical Analysis: An Introduction to Modern Methods; Ch-302, Physical Chemistry II (lectures); Ch-304, Physical Chemistry Laboratory II; Ch-410, Biochemistry I; Ch-411, Biochemistry II; Ch-420, Qualitative Organic Analysis; Ch-430, Advanced Inorganic Chemistry; Ch-450, Special Topics in Physical Chemistry, Ch-460, Natural Products; Ch-470, Instrumental Analysis; Ch-490, Independent Study.

Requirements for a Minor: 18 credits: All students must complete: Ch-120, Ch-121, General Chemistry I and II; and ten additional semester hours of chemistry courses at the 200 level or above.

Graduate Program

General Admission Requirements: The candidate must have the following courses: General Chemistry I, General Chemistry II, and College Algebra.

Requirements for Master of Education Concentration in Chemistry: Education Foundation Courses (9 hours) and all students must complete: Ch 8-200, Chemistry of Carbon Compounds; Ch 8-250, Physical Chemistry - A Life Science Approach; and the student must select, with the approval of his guidance committee, five courses at the Ch 8-200 level or above and may include Ch 8-200 and Ch 8-250 and three Education elective credits.

Geography and Geology

Professor: Morris, Perry
Assistant Professor: Hunt, Hurd, Lingner, Thompson

Geography is concerned with the interrelationships of man in his environment. It is a dynamic discipline investigating processes in the physical environment, analyzing the location of man's economic, political, and social activities. Students learn to use tools for analysis of contemporary problems in environmental systems. The Program in Geography and Geology offers a number of courses leading to a major in the field of Geography. A minor in Geography and a concentration in Geography and Environmental Studies for interested students who may wish to use these courses to meet the natural science requirements in their program of study.

Requirements for a Major: 30 credits: A major in Geography must complete the following required courses: Physical Geography; Cultural Geography; Geography of North America, and two courses in Cartography. In addition to the above required courses, all majors must select at least one advanced course in the physical, cultural and regional groups, and two additional electives. No more than 45 semester hours will be accepted toward the degree without the permission of the department. Students may take a concentration in either Physical or Cultural Geography by completing the basic requirements and completing 18 hours in the discipline.

Requirements for a Minor: 18 credits: Students must complete GE-101, Physical Geography; GE-102, Cultural Geography; GE-210, The Geography of North America, and three other electives, one each in Physical, Cultural, and Regional Geography.

Graduate Program

There is no graduate program in Geography. There is, however, a concentration in the field which is possible through Continuing Education. A student must complete a program of twelve semester hours and may take a combination of courses in Physical, Cultural, and Regional categories for a total of eighteen hours.

Natural Science and Physics

Professor: Chapman, Garrett, Kelley
Associate Professor: Belanger, Leonard

The study of Physics and Natural Science affords an opportunity to discover scientific fundamentals as a part of a general education. Students can obtain a preparation for technical employment opportunities or graduate studies. Graduate study is considered essential for a career in Physics.

Requirements for a Major: Physics: 30 credits in Physics courses. Mathematical Physics I and II, Mechanics I, and Electricity and Magnetism I are required for all Physics majors who must also take a minimum of one year of Calculus and one year of Chemistry.

Requirements for a Major: Natural Science: 38 hours: The student must choose courses to provide the following minimum distribution: two semesters of Mathematics; four semesters in any one science; and two semesters in each of any other two sciences. Students are expected to complete the Natural Science Seminar.

Requirements for a Minor: Physics: 18 credits from the following: General Physics I and II or Physics I and II; Mathematic Physics; Instrumentation and Electrical Measurements; Modern Physics; and Physics of Urban and Environmental Problems.

Requirements for a Minor: Natural Science: 18 credits: at least 6 credits in different sciences and geography and geology courses.

Energy Study Concentration: Two choices:

		Applied Energy Science	Management and Design
Freshman	basic:	First year courses including distribution requirements.	
Freshman	required	NS 100	NS 110
Sophomore	core	Fall NS 260 Spring NS 261	Fall NS 260 Spring NS 261
Junior and Senior	core		Spring NS 340 Fall NS 342
	required	Spring NS 455	Spring NS 455
	Electives:	a minimum of two Fall NS 262 Spring NS 346 Spring GE 300 Fall NS 349 Spring NS 348	Spring NS 346 Spring GE 300 Fall EC 210 Spring NS 348

Graduate Program
Concentration in Natural Science

Requirements: General Admission Requirements:
Education Foundation Courses (9 credits)
Natural Science Concentration Courses (15 credits)
Elective Course in Education (9 credits)

Certificate Program
Energy Studies

The energy certificate will be awarded upon completion of 60 points* obtained through a combination of workshops and related activities.

The point system may be equated as follows: one half non-academic point will be awarded for every clock hour of attendance at an approved non-credit lecture, seminar or workshop. A maximum of 15 points may be obtained in this manner.*

A student must select three of the four approved academic credit courses listed below. These courses carry 3 semester hours of credit as well as 15 non-credit points. A student may elect to take all four academic courses.

Suggested Programs: Basics of energy/conservation/audits/management plans/energy curriculum/demonstrations/energy & math/energy & social studies/activities for home and school.

Courses: (regularly scheduled, evenings) 15 points each in addition to academic credit. NS8-120, Man's Environment - the World of Energy; NS8-404, Energy Applications & Techniques; NS8-679, Energy Conservation & Management; ED8-200, Energy Curriculum Development.

Nursing

Chairman: Goodman

Professor: Goodman
Assistant Professor: Alexander, Brown, Haley, Lovering
Instructor: Campaniello, Giguere

Accredited by the National League for Nursing; Member of: National League for Nursing (Council of Baccalaureate and Higher Degree Programs), American Association of Colleges of Nursing, Massachusetts Association of Colleges of Nursing.

The program is exclusively for Registered Nurses seeking to build upon their educational and professional experiences. The department offers a curriculum providing the student with the opportunity to attain professional status as a fully functioning member of the health-care system.

Admission Requirements; A minimum of 60 undergraduate credits from an accredited college or university: College Level Examination Program (CLEP- General Examinations and Subject Examinations) and pre-entrance nursing examinations may be accepted. The applicant must have a licence to practice nursing in Massachusetts and must have had at least one year of clinical nursing experience. References from the most recent employer and the administrator of the basic nursing education program should be sent to the Department of Nursing. Registered Nurses with a baccalaureate degree in another area may earn a second degree in nursing. They must meet the prerequisite for the nursing major.

Requirements for a Major: 43 credits: Prerequisites: Introduction to Chemistry I and II - 8 credits; Human Anatomy and Physiology I and II - 8 credits; Microbiology - 3 credits; General Psychology - 3 credits; Introduction to Sociology - 3 credits; Child or Human Growth and Developments - 3 credits; Medical Sociology or Sociology of the Family - 3 credits; Pre-entrance Nursing Examinations - 12 credits: National League for Nursing examinations: successful achievement based on

Associate Degree score at or above 75th percentile in: Nursing Care of the Adult, I, and II, III, Maternal Child Health Nursing, Psychiatric Nursing - Scores from these examinations which are available from the applicant's School of Nursing will be accepted if taken within five years prior to admission; Clinical Practice Examination (teacher made): successful achievement at or above 75 percent.

Upper Division Nursing Major Requirements: 49 credits : A student must maintain a grade point average of 2.7 in the nursing major. Junior: Fall Semester: Nu-300, Group Communications Seminar I - 1 credit; Nu-310, Community Health Nursing - 8 credits; Nu-320, Nursing Theory - 3 credits; elective as desired - 3 credits; Spring Semester: Nu-400 Group Communication Seminar II - 1 credit; Nu-410, Nursing in Primary Care - 9 credits; Nu-420, Research Seminar - 4 credits; elective as desired - 3 credits; Senior: Fall Semester: Nu-430, Group Communication Seminar III - 1 credit; Nu-440, Contemporary Nursing Practice - 8 credits; Nu-450, Leadership in Nursing - 3 credits; elective as desired - 3 credits; Nu-480, Independent Study.

Social and Behavioral Sciences

Chairman: Kane

History/Political Science
Psychology
Sociology

History and Political Science

Professor: Edmunds, Mitchell, Saliba, Shea, Spector
Associate Professor: Cohen, McGraw, Minasian, Yuan
Assistant Professor: Delaney, Goldsmith, Kane, Twiss

The purpose of the discipline is to provide the student with the extensive course offerings to enable him to cope with a complex and ever-shrinking world. The study of history and political science also provides the student with a broad background for a wide variety of professional occupational opportunities. The following are programs which exist within the History Major: Major in History - American Studies; Major in History - Pre-Law; Major in History - Honors Curriculum; Minor in Middle East Studies.

Requirements for a Major: 36 credits: Hi-101, Western Civilization I; Hi-102, Western Civilization II; Hi-111, U.S. History I; Hi-112, U.S. History II; U.S. History electives (6 credits); European History Electives (6 credits); Non-U.S., Non-European electives (6 credits); other electives in History (6 credits).

Major in History: Honors Curriculum: open to qualified majors (juniors and seniors) who display outstanding abilities in historical studies in their firsty two years and are interested in pursuing a deeper and broader knowledge of the subject.

Phi Alpha Theta (the national history honor society); available to distinguished history majors even if they are not in the honors curriculum.

Major in History: American Studies: Juniors and seniors have the opportunity for independent study and for off-campus internships. Students will be able to work as interns in historic museums, historic restorations, history libraries, archives, or in any one of a great variety of agencies in state, county and local government.

Major in History: Pre-Legal: Special Preparation for Law School: a minimum of 12 hours in constitutional history and a minimum of 15 hours of political science. In addition to his core program, the student may select the remainder of his required hours for the bachelor's degree from a wide variety of subjects.

Requirements for a Minor - History and Political Science: 18 credits: History: Hi-101, Western Civilization I; Hi-102, Western Civilization II; Hi-111, U.S. History I; Hi-112, U.S. History II; History electives (6 credits); Political Science: Po-101, Principles of Political Science (3 credits); Political Science electives (15 credits).

Requirements for a Minor - Middle East Studies: 18 credits: Ge-360, Geography of the Middle East (3 credits); Hi-261, Middle East History I (3 credits); Hi-314, 20th Century Middle East (3 credits); nine credits recommended by advisor.

Criminal Justice

The College offers, in conjunction with the discipline of Psychology, Sociology, and Urban Studies, an upper-division concentration in Criminal Justice

Graduate Program

Admission Requirements: The general admission requirements.

Requirements for Master of Education with a Concentration in History: Education Foundation Courses: 9 hours. Students must complete: Hi 9-100, Study and Writing of History; Track I, U.S. History electives (3 credits); Track II, European History electives (3 credits); Track III, Non-U.S., Non-European History electives (3 credits); Additional electives in History, 2 courses in any track (6 credits); Additional courses in Education (6 credits) with approval of student's guidance committee.

Psychology

Professor: Allard, Lonergan, Shea, Taylor
Associate Professor: Cummings, Guarini, Jones, Nash, Widmayer
Assistant Professor: Daly-Boxshus, Matheson, O'Connor

Psychology courses acquaint students with basic principles of learning, motivation, development, adjustment and interaction, providing a foundation for effective living and a background for a wide variety of career opportunities. The undergraduate major also prepares students for graduate study in specialized fields of Psychology.

Admission Requirements: Admission is open to any student who is interested in Psychology and who can maintain a 2.0 average in the required and elective Psychology courses.

Requirements for a Major: 30 credits: maximum of 48 credits: PS-110, PS-111, PS-300, PS-305 and a minimum of 15 credit hours in elective Psychology courses.

Requirements for a Minor: 18 credits: Ps-110, Ps-111 and a minimum of 12 credit hours in elective Psychology courses.

Master of Education-Certificate of Advanced Graduate Study, Concentration in School Psychology

A sixty-three credit interdisciplinary program designed to provide students with the competencies necessary to function as school psychologists in Massachusetts. Students completing the program meet the requirements ffor certification as school psychologists.

Prerequisite(s) for Admission: General admission requirements.

Program of Study: Education Foundation Courses: 9 credits; A. School Structure, Administration, and Philosophy: Issues in School Psychology. B. Curriculum, Teaching Methods and Remediation: Education of Children with Special Needs. With the approval of the advisor, the student will elect at least one of the following: Foundations of Reading; Reading in the Elementary school; Reading in the Secondary School.

Psychological Foundations Courses:

A. Normality: Advanced Psychological Foundations of Education. With the approval of the advisor, the student will elect either Principles of Behavior or Psychology of Learning.

B. Exceptionality: Required Courses: Diagnosis and Correction of Reading Difficulties; Advanced Abnormal Psychology.

Assessment, Prescriptive, and Intervention Strategies (24 credits)

A. Assessment Strategies (9 required credits) Required Courses: Individual Intelligence Appraisal - Wechsler; Individual Intelligence Appraisal - Binet; Psychodiagnostic Techniques.

With the approval of the advisor, the student may elect one or more of the following: Analysis and Interpretation of Children's Behavior and Learning Environment: Student Appraisal Procedures; Evaluation of Classroom Learning; Advanced Psychological Testing; The Pre-School Child with Special Needs; Illinois Test of Psycholinguistic Abilities.

B. Prescriptive and Intervention Strategies (6 required credits): Required courses: Psycho-Educational Plan for Children with Special Needs.

With the approval of the advisor, the student may elect to take one or more of the following: The Gifted Child; Education of the Slow Learner; Seminar in Intervention Strategies; Psychology of Exceptional Children; Psychology of Subnormal and Unadjusted Children; Classroom Management Techniques; Behavior Modification in the School; Consulting and Interpersonal Skills for the Generic Special Teacher.

Supervised Field Experience (12 credits)

Required Courses: Practicum in School Psychology I (6 credits); Practicum in School Psychology II (6 credits).

Sociology

Professor: Goss, Kleif
Assistant Professor: Brooker, Pizziferri, Zeadey, Zelman

The sociology curriculum is designed to provide students with an appropriate frame of reference, through the systematic study of human society, for both social participation and the scientific evaluation of human behavior. The major begins the preparation of students who plan careers in Sociology or related areas, e.g., social work.

Admission Requirements: Admission to the Sociology major is based on maintaining acceptable grades in the foundation program and interest in the field of Sociology. Interested students should apply in person to the Chairman for admission to the major. They will be assigned an advisor and receive an orientation in Sociology.

Requirements for a Major: 30 credits: Students must complete: So-100, Introduction to Sociology; So-280, Social Theory I (may be waived by department); a maximum of 2 courses at the 100 level; a minimum of 3 courses at the 300 level; a minimum of 1 course at the 400 level. All courses taken beyond the minimum requirements will be credited as elective courses.

Requirements for a Minor: 18 hours; students must take SO-100; a maximum of 6 credits must be taken at both the 200 and 300 levels.

COURSE DESCRIPTIONS

Categories

All course descriptions contained in the catalog have a category number of either 1, 2, or 3. Category 1 are those courses taught every year; Category 2 are those courses taught every 2 or 3 years; while Category 3 represents areas of interest whenever there is sufficient student demand and available staff time.

Course Master Schedules

A schedule of courses offered will be published before the start of each term. The schedules will list courses to be offered, time, location, credits and faculty. The schedules are available at the Registrar's Office, Room A-204.

Course Numbers

Courses designated for distribution requirements and/or as primarily for first-year students have 100-level numbers; 200-level courses are intermediate but do not

require previous experience; 300-level courses are advanced courses with prerequisite; 400-level courses are generally for seniors. Seminars and Independent Study courses have 400-level numbers.

Note: Undergraduate credit may be received for lower series graduate-level courses (8-000 level courses), but only with permission of the faculty advisor.

All courses, unless otherwise indicated, are for three (credit) hours.

Graduate Course Numbering System

The course numbering system is as follows:

8-000 level courses — lower series graduate level courses carrying graduate credit. Qualified undergraduate students may enroll for undergraduate credit with the permission of the instructor.

9-000 level courses — upper series graduate level courses carrying graduate credit and open only to graduate students.

ART

Undergraduate Courses

AR - 100 CREATIVE PAINTING
Various schools of painting are studied with particular attention to personal applications.
Category 1.

AR - 101 ART FORMS
The theory and techniques of past and present art movements.
Category 1.

AR - 102 DRAWING IN VARIOUS MEDIA
The student becomes acquainted with a variety of techniques used in drawing, and with their artisitc applications.
Category 1.

AR - 103 WATERCOLOR I
Students deal with various techniques used by water colorists, past and present. Individual exploration will be encouraged.
Category 3.

AR - 104 FIGURE DRAWING
Drawing of the human figure will use pencil, Conte, pastel, pen and ink, watercolor, etc. (A model fee will be charged.)
Category 3.

AR - 105 DESIGN I

The use of form, line, color and texture as design element is studied. Images and techniques will be analyzed.
Category 1.

AR - 106 CREATIVE CRAFTS

The course explores craft techniques from many cultures and stresses individual problem solving.
Category 1.

AR - 107 SCULPTURE I

Basic sculpture techniques are introduced; clay and terra cotta studies of the head and figure; plaster, piece molds.
Category 1.

AR - 108 MIXED MEDIA

A variety of materials in both two and three dimensional forms. Representational and abstract works are studied.
Category 1.

AR - 109 PRINTMAKING

Basic printmaking is explored: etching and relief printmaking. Prints from major artists are investigated.
Category 1.

AR - 110 ART HISTORY: STONEHENGE TO THE RENAISSANCE

Art styles and movements from prehistoric man to the Renaissance are surveyed; painting, sculpture, architecutre.
Category 3.

AR - 111 ART HISTORY: THE RENAISSANCE TO PICASSO

Art from the Renaissance to the present is studied; the effects of scientific advances and sociological changes on art.
Category 3.

AR - 112 HISTORY OF MEDIEVAL ART

Western European art (c. 800-c. 1400) and the effects of the social and intellectual climate on art.
Category 3.

AR - 113 HISTORY OF RENAISSANCE ART

The development of art in Italy and northern Europe(c.1400-c.1700) is traced; social and intellectual trends affecting the artist.
Category 3.

AR - 114 FOUNDATIONS OF MODERN ART

Influential art movements of the 19th century and their effects on the first two decades of the twentieth century.
Category 3.

AR - 115 ART OF THE 20TH CENTURY

Surrealism and other art movements in Europe and America from the end of the first World War to the present.
Category 3.

AR - 120 ENVIRONMENTAL DESIGN

Analyzes urban area planning and elements responsible for the visual esthetics of a city through individual project building.
Category 1.

AR - 121 HISTORY OF MODERN ARCHITECTURE

Major developments in 19th and 20th century architecture in Europe and America.
Category 3.

AR - 125 ART IN THE ELEMENTARY SCHOOL

The function of art in the elementary school is explored as well as contemporary practices in art education.
Category 1.

AR - 200 HISTORY OF AMERICAN ART

Painting, sculpture, architecture and urban planning from pre-

revolutionary times to the present.
Category 3.

AR - 201 HISTORY OF URBAN FORM

The physical form of communities and cities from ancient times to contemporary planning.
Category 2.

AR - 209 SILKSCREEN PRINTING

Silkscreen printing is introduced with traditional methods forming the basis of the course: prints by contemporary artists.
Category 3.

AR - 300 CREATIVE PAINTING II

Prerequisite: AR - 100 or equivalent.

Painting techniques: stress on individual direction and growth. Appropriate historical examples of painting are examined.
Category 3.

AR - 301 PORTRAIT PAINTING

Prerequisite: AR - 100 or equivalent.

Various painting styles and psychological aspects of the face are used to approach the study of the portrait.
Category 2.

AR - 304 ADVANCED FIGURE DRAWING

Prerequisite: AR - 104.

Art studies of the human figure include finished drawings in charcoal and pastel and preliminary studies for painting. (A model fee will be charged.)
Category 2.

AR - 305 DESIGN II

Prerequisite: AR - 105.

Advanced problems in two and three-dimensional design are given.
Category 3.

AR - 307 SCULPTURE II

Prerequisite: AR - 107.

Work in various techniques includes metal and wood sculpture. (Students must provide their own wood chisels.)
Category 3.

AR - 310 SPECIAL TOPICS

Prerequisite: One art course or consent of instructor.

Particular art topics are examined according to the interest of the professor.
Category 3.

AR - 400 INDEPENDENT STUDY IN ART

Prerequisite: Limited to art minors with a minimum of 12 semester hours of art.

A student desiring to engage in self-arranged studies must obtain plan approval before course registration.
Category 1.

Graduate Courses

AR8 - 105 MIXED MEDIA

To explore various ways of mixing art media together in both two and three dimensional forms. Studio course.

AR8 - 115 BASIC WOOD DESIGN

Basic introduction to wood as a constructing material. Originality of design encouraged. Hand tools and power tools explored.

AR8 - 116 ADVANCED WOOD DESIGN

Prerequisite: AR8 - 115, or permission of Instructor.

Field group project utilizing design within the community. Direct approach to experimental design with an evaluation of the design's functioning processes.

AR8 - 120 CREATIVE PAINTING I

A studio course designed to give students the opportunity to ex-

perience the use of acrylic or oil painting. Interpretation of a variety of subjects.

AR8 - 125 DRAWING IN THE VARIOUS MEDIA

Includes both realistic representation and abstract statements using such media as pencil, ink, conte crayon.

AR8 - 130 SCULPTING I & II

Workshop courses using clay, wood and various metal materials. Beginning and advanced students may register and may begin at their own level.

AR8 - 135 SHELTER DESIGN & ALTERNATIVE ENERGY

Factors to consider in planning a shelter, materials, methods and skills,alternative sources of heat and energy..

AR8 - 140 TEACHING ART IN THE CLASSROOM

Concerned with the place and function of art in the public schools; stresses contemporary practices through studio experiences.

AR8 - 175 COLOR, DESIGN AND IMAGE

Studio painting course offering series of special projects designed to increase the student's inventiveness in the three areas of: color, design and imagery.

Appropriate for beginners through advanced. Student responsible for own materials.

AR8 - 200 FIGURE DRAWING

Drawing the human figure using various media, such as pencil, charcoal, chalk. Proportions, motion, lighting and other elements are considered.

AR8 - 220 CREATIVE CRAFTS

A course designed to introduced a number of craft techniques. Particular attention will be given to the creative process as it applies to personal needs as well as teaching needs.

AR8 - 250 PRINTMAKING WORKSHOP

Prerequisite: Any studio course.

A studio course emphasizing the woodcut and etching (line, aquatint, and soft ground etching). Students are urged to develop and refine visual ideas from work done in previous art courses.

AR ED8 - 260 ART IN THE ELEMENTARY SCHOOL

The place and function of art in the elementary school, and contemporary practice through laboratory experiences.

AR8 - 300 VISION AND SOUND

Requirement: Students must have a record player or cassette tape recorder.

A study in combining sound with sequential visual structure.

AR8 - 350 THE WORCESTER ART MUSEUM

A lecture and field course covering the collections and exhibitions of the Worcester Art Museum. The class will spend a considerable amount of time at the Museum; at other times, lectures and slide presentations will be given.

BIOLOGY

Undergraduate Courses

BI - 101 GENERAL BIOLOGY I

Introductory biological principles-especially pre-tissue (molecular and cellular) biology, and selected plant/animal (including human) homeostatic systems.
Category 1.

BI - 102 GENERAL BIOLOGY II

Introductory biological principles — especially reproduction, heredity, evolution, ecology, and selected contemporary topics such as conservation, population, pollution, etc.
Category 1.

BI - 111 SOCIAL BIOLOGY

This course considers the "interface" between current biological technologies and the social, cultural, legal, and moral postures of modern man.
Category 1.

BI - 112 DISEASES AND MANKIND

Epidemiological approach to diseases of ancient and modern man, and the impact on history, religion, science, art and philosophy.
Category 1.

BI - 113 BOTANICAL WORLD

Considers entire plant kingdom -especially endemic trees, flowers, algae, fungi (including use of diagnostic keys and "tree walks").
Category 2.

BI - 114 PLANTS AND HUMAN AFFAIRS

Man's dependence upon plants and their influence on civilization and its art, religions, literature, folklore, medicine, and human behavior.
Category 2.

BI - 151 GENERAL BOTANY

The plant kingdom; taxonomy, natural history, anatomy, and evolutionary relationships; identification, classification, and dissection from macro—and microscopic viewpoints; three lectures and a three-hour laboratory per week.
Category 1. 4 hours.

BI - 152 GENERAL ZOOLOGY

Basic concepts in animal biology, animal diversity with phylogenetic relationships, and comparative structure-function analysis of selected animals. Lectures and laboratory.
Category 1. 4 hours.

BI - 161 HUMAN ANATOMY & PHYSIOLOGY I

Considers human pre-tissue (molecular and cellular)principles, tissues, integumental, skeletal, muscular, nervous, special senses, and endocrine systems. Three lectures and a two-hour laboratory per week.
Category 1. 4 hours

BI - 162 HUMAN ANATOMY & PHYSIOLOGY II

Considers human cardiovascular, respiratory, digestive, excretory, water and electrolyte balance, reproductive, and embryogenic systems. Three lectures and a two-hour laboratory per week.
Category 1. 4 hours

BI - 171 BASIC KINESIOLOGY

Structure and function of human skeletal muscles in relationship to motion and general body mechanics under normal and stress conditions.
Catetory 3.

BI - 172 EXERCISE PHYSIOLOGY

The functions of the numerous systems of the human body during exercise and factors that may modify these functions.
Category 2.

BI - 201 INTRODUCTION TO CELL BIOLOGY

Prerequisites: BI - 151 and BI -152.

The ultrastructure and cytochemistry of cell organelles are related to their functions; discussion of the evolution of cellular molecular machinery, cell bioenergetics, and nuclear phenomena.
Category 1.

BI - 202 PRINCIPLES OF ECOLOGY

Prerequisites: BI - 151 and BI -152.

Basic ecological theory relating to organism-environment interactions; population dynamics, and systems ecology.
Category 1.

BI - 203 GENETICS

Prerequisites:BI - 151 and BI -152.

Introductory genetics with examples of human inheritance and recent developments in genetic engineering.
Category 1.

BI - 204 MICROBIOLOGY

Prerequisites: Introductory chemistry and biology courses.

The cytology, metabolism, and genetics of bacteria. Immune responses and control of microorganisms are stressed. Three lectures per week, and one three-hour laboratory per week.
Category 1.

BI - 301 INVERTEBRATE ZOOLOGY

Prerequisite: Basic.

Considers anatomy, taxonomy (including selected articles, International Code of Zoological Nomenclature), natural history, and evolutionary relationships of selected invertebrate phyla. Three lectures and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 302 ENTOMOLOGY

Prerequisite: BI - 152.

Considers insects and their allies, chemical and biological control, and special references to agricultural pests and medical entomology. Lectures and laboratory.
Category 2. 4 hours.

BI - 303 PARASITOLOGY

Prerequisite: BI - 152.

Basic concepts in symbiology, study of life cycles, epidemiology, disease development, control and prevention of selected human parasites. Lectures and laboratory.
Category 2. 4 hours.

BI - 304 COMPARATIVE VERTEBRATE ANATOMY

Prerequisite: Basic.

Considers prochordate and chordate taxonomy and phylogeny, and systematic morphological comparison or representative chordates to establish homology, analogy, and evolution. Three lectures and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 305 EMBRYOLOGY

Prerequisites: Four courses in Biology.

Morphogenesis of selected chordate embryos; principles of differentiation and evolution as interpreted in animal taxa. Three hours of lecture and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 311 MICROTECHNIQUE

This course covers practical experience in making permanent microscope slides by the paraffin embedment method. Three hours of lecture and a three-hour

laboratory per week.
Category 2. 4 hours.

BI - 312 BIOLOGICAL TECHNIQUES
Prerequisites: BI - 151 and BI -152.
Goals, literature, techniques and basic instruments of science; design, methods and limitations of applied science are discussed; laboratory demonstrations.
Category 2. 4 hours.

BI - 313 HISTOLOGY
Prerequisite: Basic.
Examines the structure and function of animal tissues. Each student is required to prepare tissues using histological methods. Three lectures and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 321 COMPARATIVE ANIMAL PHYSIOLOGY
Prerequisites: BI - 151 and BI -152.
A comparison of selected physiological functions as seen and interpreted in various animal taxa.
Category 2.

BI - 322 MAMMALIAN PHYSIOLOGY
Prerequisite: Basic.
Detailed consideration of circulatory, respiratory, muscle, and nerve physiology in mammals, including man. Laboratory concentrates on physiological measurement. Three hours of lecture and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 323 ENVIRONMENTAL PHYSIOLOGY
Prerequisites: Basic plus BI - 235 or BI - 371 or BI - 161 and one Chemistry course.
Concentrates on mammalian stress physiology in relation to extreme environments; specific stresses, methods of adaptation, and homeostatic mechanisms. Three hours of lecture and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 324 ENDOCRINOLOGY
Prerequisites: Basic plus BI - 161, CH - 120 or BI - 371.
The role of endocrine glands in the normal integration of animals; mechanisms of hormone action, function and their interrelationships. Three lectures and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 331 MARINE BIOLOGY
Prerequisites: Basic plus BI - 212.
Considers the marine environment, its flora and fauna, distribution and production of plankton-nekton-benthos, zoogeography, bioeconomic factors and potential. Three lectures and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 332 FIELD BIOLOGY.
Prerequisites: BI - 151 and B1 -152.
The habitat approach to practical applications of ecology. Field trips are required. Three hours lecture and three hour lab.
Category 2. 4 hours.

BI - 333 VERTEBRATE NATURAL HISTORY: ECTOTHERMS
Prerequisites: Basic plus BI - 203.
Life histories, adaptations, distribution, systematics, and economic importance of ectothermic (cold-blooded) vertebrates (fish, amphibians, and reptiles) of northeastern US. Three hours of lecture and a three-hour laboratory per week.
Category 2.4 hours.

BI - 334 WILDLIFE INVESTIGATIONAL TECHNIQUES
Prerequisites: Basic plus BI - 203.
Considers procedures for collection and analysis of field and laboratory data on vertebrate

game populations useful to wildlife biologists. Three hours of lecture and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 341 MYCOLOGY
Prerequisite: BI - 152.

The morphology, cytology, evolution and classification of the fungi. Three hours lecture and three hour lab.
Category 2. 4 hours.

BI - 342 PLANT PHYSIOLOGY
Prerequisite: Basic.

Fundamentals underlying plant processes — nutrition, ,metabolism, growth, development, and responses. Laboratory.
Category 2. 4 hours.

BI - 370 DARWINIAN REVOLUTION
Prerequisites: Two courses in biology.

Philosophical, religious, and social impacts of Darwin's theory of evolution by the process of natural selection. An interdisciplinary perspective.
Category 2.

BI - 371 MOLECULAR BIOLOGY.
Prerequisites: Basic plus BI - 204.

Genesis and function of classical biology with stress on molecular form; evolution, exploitation, and ramification of molecular structure in cells, organs and organisms; three lectures and a three-hour laboratory per week.
Category 2. 4 hours.

BI - 372 IMMUNOLOGY

Introduction to cellular defense mechanisms in health and disease; antigen-antibody reactions; human immune responses.
Category 3. 4 hours.

BI - 373 RADIATION BIOLOGY
Prerequisites: BI - 111, BI - 152 or BI - 162.

Basic theories of interaction of ionizing radiations with living and non-living matter; industrial and clinical applications.
Category 2.

BI - 401 SELECTED TOPICS IN BIOLOGICAL SCIENCES
Prerequisites: Departmental permission and consent of instructor.

Each topic is a lecture and/or laboratory course in a selected area of the biological sciences presented by a departmental Instructor(s) and guest lecturers (where applicable); topic to be announced in advance; topics offered will meet student needs and interests.
Category 3. 1 - 4 hours.

BI - 402 BIOLOGICAL PROBLEMS
Prerequisites: Departmental permission and consent of instructor.

Advanced semi-independent study of an approved biological problem by qualified, upper-level biology majors (under faculty supervision).
Category 3. 1 - 4 hours.

BI - 403 BIOLOGY INTERNSHIP
Prerequisite: Departmental approval.

Intended for qualified, upper-level biology majors.
Category 3. 1 - 6 hours.

BI - 404 BIOLOGY SEMINAR
Prerequisite: Departmental permission.

Preparation and presentation of biological topics, chosen with the advice and consent of a faculty advisor.
Category 1. 2 hours.

BI - 451 NUCLEAR INSTRUMENTATION I

Prerequisite: Permission of NMT coordinator.

The structure, fuctions and interactions of particulate and non-particulate radiations with matter; detection, calibration, dosage and statistical methods.
Category 1.4 hours.

BI - 452 NUCLEAR INSTRUMENTATION II

Prerequisite: Permission of NMTG Coordinator.

Designed to further the skills of operating, calibrating, and performing routine maintenance on scanners, gamma cameras, well counters, and liquid scintillation counters.
Category 1. 4 hours.

BI - 453 RADIOPHARMACEUTICALS

Prerequisite: Permission of NMT Coordinator.

Fundamental concepts of radiopharmaceutical production including basic radiochemistry.
Category 1.4 hours.

BI - 454 NMT CLINICAL PRACTICUM I

Prerequisite: Permission of NMT Coordinator.

Students will spend several days a week in a hospital observing the ongoing activities of a nuclear medicine facility and the examinations and procedures performed.
Category 1.10 hours.

BI - 455 NMT CLINICAL PRACTICUM II

Prerequisite: Permission of NMT Coordinator.

Guided by clinical instructors, student begins to acquire manual skills essential to nuclear medicine technologist. Supervised experience in performing all routine nuclear medicine examination and laboratory procedures.
Category 1.4 hours.

BI - 456 NMT CLINICAL PRACTICUM III

Prerequisite: Permission of NMT Coordinator.

Upon completion of this practicum, students should be skilled in performing both routine and non-routine nuclear medicine examinations and laboratory procedures.
Category 1. 4 hours.

BI - 457 CLINICAL NUCLEAR MEDICINE TECHNOLOGY I

Prerequisite: Permission of NMT Coordinator.

Why a specific test is indicated; which radiopharmaceutical is perferred; and how the basic image appearance and/or numerical data may be altered by pathological states.
Category 1.4 hours.

BI - 458 CLINICAL NUCLEAR MEDICINE TECHNOLOGY II

Prerequisite: Permission of NMT Coordinator.

Sample case presentations using formulas, charts, tables and calculations to arrive at examination parameters such as amount of dose, number of counts, speed of instrument, etc.
Category 1. 4 hours.

Graduate Courses

BI8 - 005 ANIMAL WORLD AND ITS EVOLUTION

Survey of animal kingdom, its evolution, natural history, and certain taxonomic considerations (including selected articles, International Code of Zoological Nomenclature).

BI8 - 010 PLANT WORLD AND ITS EVOLUTION

Survey of plant kingdom, its

evolution, natural history — emphasizing endemic forms, especially trees via diagnostic keys and tree walks.

BI8-015 MICROBIOLOGY FOR HEALTH STUDIES

This introductory course considers the cytology, metabolism, and genetics of bacteria. Immune response and control of microorganisms.

BI8 - 205 HEREDITY AND HUMAN AFFAIRS

Advances in human genetics are applied to situations to learn the social, ethical, and legal implications.

BI8 - 210 TOXICOLOGY AND DRUGS

The phenomenon of chemical-biological interactions and the harmful action of chemical agents in living systems.

BI8 - 220 ECOLOGY OF SOIL ORGANISMS

Explores the unnoticed and often disregarded community of soil organisms; stresses their ecology and significance.

BI8 - 225 FRESHWATER ECOLOGY

Considers the effects of physical, chemical, and biotic factors present in standing and running waters on the ecology and productivity of freshwater systems.

BI8 - 230 BIO-POLITICS

The biological, social, and political considerations raised by 20th century advances in medicine and biology will be explored.

BI8 - 235 PUBLIC HEALTH PARASITOLOGY

Biology, epidemiology, disease processes, control and prevention of human parasites and concentrates on selected protozoan, helminth, and arthropod organisms.

BI9 - 005 HISTORICAL PERSPECTIVES IN BIOLOGY

The nature, processes, and research approaches of the major biological discoveries and emerging new paradigms from the 17th century to the present.

BI9 - 010 PRINCIPLES OF TAXONOMY AND EVOLUTION

Considers international codes of biological nomenclature, the history of taxonomy, methodology, facts and mechanisms of organic evolution, and contemporary issues.

BI9 - 015 TOPICS IN ADVANCED BOTANY

Explores and reviews specializedtopics in the life of plants.

BI9 - 020 POPULATION BIOLOGY

Analyzes population density, growth, regulation, and energy relationships. Population interactions, organization, and evolution are stressed.

BI9 - 030 BIOLOGICAL CHEMISTRY

Concerns the physical, chemical, and biological properties and metabolism of carbohydrates, proteins, lipids, DNA and RNA.

BI9 - 035 IMMUNOCHEMISTRY

The biochemical and molecular nature of the immune reaction, immunologic specificity, genetics, differentiation; clinical applications.

BI9 - 105 ADVANCED INVERTEBRATE ZOOLOGY

Considers anatomy, taxonomy, evolution, and natural history of selected invertebrate groups; especially minor phyla. Insecta and parasitic helminths excluded.

BI9 - 110 REPRODUCTIVE PHYSIOLOGY

Concerns the influence of sex hormones on the reproductive system, beginning with embryogenesis and early maturation and extending into the areas of fertilization, pregnancy, gestation, parturition and lactation.

BI9 - 115 NEUROENDOCRINOLOGY

Emphasizes the hypothalamo-hypophysial system in mammals together with its influence on the central nervous system.

BI9 - 125 PHYSIOLOGICAL ECOLOGY

Considers the physiological adjustments which animals make in response to environmental factors; emphasizes the physiological basis of animal evolution and distribution.

BI9 - 130 HERPETOLOGY

Concerns the structural and functional characteristics of amphibians and reptiles, their origin and evolution, their ecological relationships, and their distribution and natural history.

BI9 - 135 BIOLOGY OF SYMBIOSIS

Nutritional, metabolic and evolutionary mechanisms of partnerships in nature with emphasis on the universality of symboisis.

BI9 - 400 SELECTED TOPICS IN BIOLOGY

Prerequisite: Consent of instructor. One to four credits.

May include survey and careful study of literature, experimentation, observation, and collection of data in field and laboratory.

BI9 - 405 SEMINAR IN BIOLOGY

Study and discussion of current researches, books, and periodicals in the field of biology. The course also includes reports of research in progress. Required of all graduate degree candidates.

BI9 - 410 INDEPENDENT STUDIES IN BIOLOGY

(M.S. candidates in Biology). Requires a satisfactory paper based on intensive study and review of the scientific literature on a topic approved by the major professor with or without supplementary field or laboratory work (practicum). One to six credits.

BI9 - 415 THESIS RESEARCH IN BIOLOGY

(M.A. candidates in Biology). Original research in biology, under the supervision of a member of the faculty and an acceptable thesis. One to six credits.

CHEMISTRY

Undergraduate Courses

CH - 105 NATURE OF CHEMICAL CHANGE

The properties of matter viewed through simple reactions of familiar substances. Two lectures and a two-hour laboratory per week.
Category 1.

CH - 110 INTRODUCTION TO GENERAL, ORGANIC AND BIOCHEMISTRY I

An introductory survey of chemistry. Topics include atomic structure, chemical bonding and reactions, acid-base theory, introduction to organic chemistry. Three hours of lecture and three hours of laboratory per week. CH - 110 and CH - 111 are for students who do not plan to take

additional courses in chemistry.
Category 1. 4 hours.

CH - 111 INTRODUCTION TO GENERAL, ORGANIC AND BIOCHEMISTRY II.

Prerequisite: CH - 110.

Continuation of CH - 110. Topics include functional groups and reactions of organic compounds and topics in biochemistry such as carbohydrates, proteins, lipids, and metabolic pathways. Three hours of lecture and three hours of laboratory per week.
Category 1. 4 hours.

CH - 120 GENERAL CHEMISTRY I.

Modern survey of chemistry. Topics include chemical equations, properties of gases, atomic structure, periodic table, chemical bonding, chemistry of carbon. Three hours of lecture and three hours of laboratory per week. CH - 120 and CH -121 provide the foundation for further courses in chemistry.
Category 1. 4 hours.

CH - 121 GENERAL CHEMISTRY II

Prerequisite: CH - 120.

Continuation of CH - 120. Topics include elements of thermodynamics, acids and bases, reaction rates, oxidation-reduction reactions and electrochemistry.Three hours of lecture and three hours of laboratory per week.
Category 1. 4 hours.

CH - 201 ORGANIC CHEMISTRY I (LECTURES ONLY)

Prerequisites: CH - 120, CH - 121.

Structure, reactions, mechanisms, and stereochemistry of the alkanes, alkenes, alkynes, dienes, alkyl halides. Introduction to aromatic chemistry.
Category 1.

CH - 202 ORGANIC CHEMISTRY II (LECTURES ONLY)

Prerequisites: CH - 201.

Continuation of Organic Chemistry I. Reactions and mechanisms of aromatic chemistry; structures and reactions of alcohols, ethers, carboxyllc acids, aldehydes, ketones.
Category 1.

CH - 203 ORGANIC CHEMISTRY LABORATORY I.

Prerequisite: CH - 201 taken previously or concurrently.

Techniques of preparation, purification, and identification of aliphatic compounds. One four-hour laboratory per week.
Category 1. 2 hours.

CH - 204 ORGANIC CHEMISTRY LABORATORY II

Prerequisite: CH - 203.

Application of basic and more advanced techniques to increasingly complicated synthetic problems. One four-hour laboratory per week.
Category 1. 2 hours.

CH - 210 CHEMICAL ANALYSIS: AN INTRODUCTION TO MODERN METHODS

Prerequisites: CH - 120, CH - 121.

Introduction to modern methods of chemical analysis including gravimetry, acid-base and redox-titrations, potentiometry, u.v.-visible and automic absorption spectrophotometry, and gas chro-matography. Two hours of lecture and 6 hours of laboratory per week.
Category 1. 4 hours.

CH - 220 CHEMISTRY OF ENERGY AND THE ENVIRONMENT

Prerequisites: CH - 120, CH - 121.

Chemistry of the environment;

chemical aspects of energy; and the environmental aspects of energy production and use.
Category 3.

CH - 230 FOUNDATIONS OF CHEMISTRY AND PHYSICS
Prerequisites: CH - 120, CH - 121, PY - 120, PY - 121, or consent of instructor.

History, philosophy, methods, and concepts of physical sciences for science and non-science majors. Emphasizes and understanding of science and scientists.
Category 3.

CH - 301 PHYSICAL CHEMISTRY I (LECTURES ONLY)
Prerequisites: CH - 120, CH - 121, MA - 300, MA - 301.

A study of the first, second, and third laws of thermodynamics, and of chemical, solution, and phase equilibria.
Category 1.

CH - 302 PHYSICAL CHEMISTRY II (LECTURES ONLY)
Prerequisite: CH - 301.

Continuation of CH - 301. Topics include chemical kinetics, quantum theory, chemical bonding, spectroscopy, and molecular structure. Three hours of lecture per week.
Category 1.

CH - 303 PHYSICAL CHEMISTRY LABORATORY I
Prerequisite: CH - 301 taken previously or concurrently.

Laboratory: deals with methods of physical measurement on chemical systems and their application to the determination of thermodynamic data. One four-hour laboratory per week.
Category 1. 2 hours.

CH - 304 PHYSICAL CHEMISTRY LABORATORY II
Prerequisite: CH - 302 taken previously or concurrently.

Continuation of CH - 303; project-oriented laboratory dealing with the study of reaction rates and mechanisms, electrochemistry, and molecular properties. One four-hour laboratory per week.
Category 1. 2 hours.

CH - 410 BIOCHEMISTRY I
Prerequisites: CH - 201, CH - 202, CH -301, CH - 302, or consent of instructor.

The chemistry of proteins, nucleic acids, carbohydrates,and thermodynamics; enzymes, biological oxidations; and correlations in intermediary metabolism. Three hours of lecture and three hours of laboratory per week.
Category 2. 4 hours.

CH - 411 BIOCHEMISTRY II
Prerequisite: CH - 410.

The generation and storage of metabolic energy; biosynthesis of macromolecular precursors, DNA, RNA, and protein; and biochemical regulation. Three hours of lecture and three hours of laboratory per week.
Category 2. 4 hours.

CH - 420 QUALITATIVE ORGANIC ANALYSIS
Prerequisites: CH - 201, CH - 202.

Analysis of organic compounds including separation of mixtures and identification of compounds by their physical properties and preparation of their derivatives. Two hours of lecture and four hours of laboratory per week.
Category 2.

CH - 430 ADVANCED INORGANIC CHEMISTRY
Prerequisites: CH - 301 or consent of instructor.

An in-depth presentation of topics such as wave mechanics,

atomic structure, chemical bonding, spectroscopy, coordination chemistry, crystal field theory, and stereochemistry.
Category 2.

CH - 450 SPECIAL TOPICS IN PHYSICAL CHEMISTRY

Prerequisites: CH - 301, CH - 302.

Exploration of frontier areas of physical chemistry including chemical kinetics, quantum chemistry, molecular spectroscopy, and symmetry properties of molecules. *Category 3.*

CH - 453 RADIOPHARMACEUTICALS

Prerequisites: Persmission of NMT Coordinator.

Fundamental concepts of radiopharmaceutical production including basic radiochemistry.
Category 1.4 hours.

CH - 457 CLINICAL NUCLEAR MEDICINE TECHNOLOGY I

Prerequisite: Permission of NMT Coordinator.

Why a specific test is indicated; which radiopharmaceutical is preferred; and how the basic image appearance and/or numerical data may be altered by pathological states.
Category 1. 4 hours.

CH - 458 CLINICAL NUCLEAR MEDICINE TECHNOLOGY II

Prerequisite: Permission of NMT Coordinator.

Sample case presentations using formulas, charts, tables and calculations to arrive at examination parameters such as amount of dose, number of counts, speed of instrument, etc.

CH - 490 INDEPENDENT STUDY IN CHEMISTRY

Prerequisite: Permission of the Department.

Advanced independent work on a research problem in chemistry mutally agreed to by the student and the instructor.
Category 1. 1-3 hours.

Graduate Courses

CH8 - 150 CHEMISTRY AND OUR ENVIRONMENT

Considers the chemical aspects of our environment, including food, energy, and materials, and the problems of air and water pollution.

CH 8 -155 CURRENT TRENDS IN CHEMISTRY AND NUTRITION

Fundamental concepts of chemistry with contemporary applications. The nutrition segment takes up human nutritional requirements, classes of foods, and dietary fads.

CH8 - 200 CHEMISTRY OF CARBON COMPOUNDS

Prerequisites: General Chemistry I and II.

The major classes of organic compounds. Topics include: structure, nomenclature, stereochemistry, reactions, and mechanisms.

CH8 - 210 APPLICATIONS OF COMPUTERS IN CHEMISTRY

Prerequisites: General Chemistry I and II.

Instruction in the scientific computer language of BASIC. Students will be assigned chemistry-oriented computer projects.

CH8 - 230 CHEMICAL PERSPECTIVE IN CANCER

Prerequisites: One year of Biology, General Chemistry I and II, Organic Chemistry recommended.

The historical evidence that chemicals can act as cancer-causing agents; modern theories of chemical carcinogens, and chemotherapy.

CH8 - 250 PHYSICAL CHEMISTRY: A LIFE SCIENCE APPROACH

Prerequisites: General Chemistry I and II, College Algebra.

This non-calculus course in physical chemistry relates physical chemical principles to biological systems.

CH8 - 260 INDUSTRIAL CHEMISTRY

Prerequisites: General Chemistry I and II.

This course furnishes a profile of the United States chemical (and pharaceutical) industry and is for those in science, business, and/or management.

CH8 - 350 LABORATORY WORKSHOP IN THE NATURAL SCIENCES

Participants spend their time in the laboratory developing a store of functional experiments and demonstrations drawn from the physical, biological, and earth sciences.

CH8 - 375 CASE STUDIES IN THE HISTORY OF SCIENCE

Selected discoveries, concepts, and theories in contemporary science are examined in historical perspective. Intended for the non-scientist as well as the specialist.

CH8 - 410-1 BIOCHEMISTRY LECTURE I

Prerequisite: One year of Organic Chemistry.

See description of CH - 410. Three hours of lecture per week. Three semester hours credit.

CH8 - 410-2 BIOCHEMISTRY LABORATORY I

Prerequisites: One year of Organic Chemistry, Biochemistry Lecture I or Modern Biochemistry.

Laboratory course to accompany CH8 - 410-1 or CH8-415. One three hour laboratory per week. One semester hour credit.

CH8 - 411-1 BIOCHEMISTRY LECTURE II

Prerequisite: CH8 - 410-1.

See description of CH - 411. Three hours of lecture per week. Three semester hours credit.

CH8 - 411-2 BIOCHEMISTRY LABORATORY II

Prerequisites: Organic Chemistry I and II, Biochemistry Lectures II.

Laboratory course to accompany CH8 - 411-1. Three hours of laboratory per week. One semester hour credit.

CH8 - 415 MODERN BIOCHEMISTRY

Prerequisites: Organic Chemistry I and II.

Principles and concepts of modern biochemistry, including enzymes and the chemistry and metabolism of biochemical compounds.

CH8 - 420 QUALITATIVE ORGANIC ANALYSIS

See CH - 420.

CH 8 - 430 ADVANCED INORGANIC CHEMISTRY

See CH - 430.

CH8 - 440 LABORATORY TECHNIQUES IN MODERN ANALYTICAL CHEMISTRY

Prerequisites: General Chemistry I and II.

Introduction to modern instrumental techniques of chemical analysis for students who have a minimal background in chemistry. Three hours of lecture/laboratory per week.

CH 8 - 450 SPECIAL TOPICS IN PHYSICAL CHEMISTRY

See CH - 450.

CH 8 - 460 NATURAL PRODUCTS

See CH - 460.

CH8 - 470 INSTRUMENTAL ANALYSIS

See CH - 470.

CH8 - 864 ENVIRONMENTAL CHEMISTRY

Prerequisites: General Chemistry I and II, Organic Chemistry recommended.

The principles of environmmental chemistry and chemical ecology including biogeochemical cycles and the nature of water systems and the atmosphere. Three hours of lecture/laboratory per week.

CH8 - 875 SCIENCE, TECHNOLOGY, AND SOCIETY

The impact of science and technology upon the modern world. Problem areas include energy, population, transportation, health, space, communications, and government.

CH8 - 880 CHEMICAL EVOLUTION ORIGINS OF LIFE

Prerequisites: General Chemistry I and II.

Traces a probable course of chemical evolution from simple substances to the formation of macromolecules and protocells. Three hours of lecture/laboratory per week.

CH9 - 421 BIOCHEMISTRY OF NUCLEIC ACIDS

Prerequisites: Biochemistry I, Modern Biochemistry, or Biological Chemistry.

The structure and function of DNA, and RNA. Topics include bacterial, viral, and eukaryotic nucleic acids.

CH9 - 422 STRUCTURE AND FUNCTION OF PROTEIN

Prerequisites: Biochemistry I, Modern Biochemistry, or Biological Chemistry.

The biochemistry of proteins. Particular emphasis is given to enzymes and the kinetics of enzyme-catalyzed reactions.

CH9 - 423 LABORATORY TECHNIQUES IN BIOCHEMISTRY

Prerequisites: Biochemistry I, Modern Biochemisry, or Biological Chemistry.

This course includes the isolation and characterization of biochemical compounds with emphasis on nucleic acids and proteins, including enzymes.

CH9 - 451 STATISTICAL THERMODYNAMICS

Prerequisite: Physical Chemistry.

Introduction to the statistical mechanics of systems at equilibrium. Topics include kinetic theory, quantum statistics, chemical equilibria, and prediction of reaction rates.

CH9 - 453 QUANTUM CHEMISTRY I

Prerequisite: Physical Chemistry.

Introduction to time-dependent quantum theory. Topics include wave equations, quantum mechanical formalism, the

hydrogen atom, matrix mechanics, and perturbation theory.

CH9 - 455 QUANTUM CHEMISTRY II

Prerequisite: CH9 - 453.

Introduction to time-dependent quantum theory. Topics include time-dependent perturbation theory, the interaction of radiation with matter, and collision.

CH9 - 900 SPECIAL PROBLEMS IN CHEMISTRY

Prerequisite: Permission of instructor.

A laboratory or library research project conducted in consultation with a faculty member.

CH9 - 910 DIRECTED STUDY IN CHEMISTRY

Prerequisite: Permission of instructor.

Designed for the student who wishes to undertake an individualized study in chemistry on a topic mutually agreeable to student and instructor. One-four semester hours credit.

CH9 - 963 INTERNSHIP IN CHEMISTRY

Prerequisite: Permission of instructor.

Research project completed at an institution other than WSC by a student with a non-WSC sponsor and WSC liaison.

COMMUNICATION DISORDERS

Undergraduate Courses

CD - 100 SPEECH PATHOLOGY

Nature and causes of organic and functional speech problems; emphasis on articulation, cerebral palsy, and voice; consideration of therapeutic techniques.
Category 1.

CD - 105 PHONETICS

A study of the sounds of the English language, their production, their representation by internationl phonetic symbols and their graphic transcription.
Category 1.

CD - 110 ANATOMY AND PHYSIOLOGY OF SPEECH AND HEARING

Normal anatomy and physiology of the speech and hearing mechanisms with emphasis on respiration, phonation, resonance, articulation and audition.
Category 1.

CD - 115 NORMAL DEVELOPMENT OF SPEECH AND LANGUAGE

An in-depth coverage of the normal acquisition and development of speech and language, including phonology, morphology, syntax, and semantics.
Category 1.

CD - 120 SPEECH, HEARING AND LANGUAGE DISFUNCTION IN THE CLASSROOM

Typical symptomatology of speech, language, and hearing disfunction among school-age children; techniques,and materials for their remediation.
Category 3.

CD - 125 PRINCIPLES OF TEACHING THE HANDICAPPED

Special methods and techniques for teaching the handicapped who have speech and hearing impairments, e.g., cleft palate, deaf, cerebral palsy.
Category 3.

CD - 200 INTRODUCTION TO HEARING SCIENCE

Basic information necessary for the field of audiology; acoustics, frequency, and intensity measurements, and anatomy and physiology of the ear.
Category 1.

CD - 205 AUDIOLOGY

Prerequisite: CD - 200

Basic acoustics, anatomy and physiology of the human ear, and ear pathologies; introduction to audiometric testing techniques.
Category 1.

CD - 210 LANGUAGE DISORDERS

Prerequisites: CD - 100, 105, 110, 115, 200, 205.

The processes interfering with normal language acquisition and the disorders which disturb established language skills in children and adults.
Category 1.

CD - 215 VOICE AND ARTICULATION DISORDERS

Prerequisites: CD - 100, 105, 110, 115.

The etiology, evaluation, diagnosis and therapeutic procedures for functional and organic voice and articulation disorders.
Category 1.

CD - 225 NEUROLOGICAL DISORDERS OF SPEECH

Prerequisites: CD - 100, 105, 110, 115.

Communication difficulties associated with cerebral insult; rehabilitative procedures in speech and language.
Category 3.

CD - 300 REHABILITATION OF THE AUDITORILY IMPAIRED

Prerequisites: CD - 100, 105, 110, 200, 205.

Theory of practices used to improve communication for the auditorily impaired; visual and auditory perception of speech; orientation to amplification.
Category 1.

CD - 305 RHYTHM PROBLEMS AND ALLIED DISORDERS OF SPEECH

Prerequisites: CD - 100, 105, 110.

Introduction to major theories of stuttering and associated problems, e.g., cluttering; basic therapeutic procedures for children and adults.
Category 1.

CD - 310 SPEECH/ LANGUAGE PRACTICUM I

Prerequisites: CD - 100, 105, 110, 115, 200, 205, 210, 215, 305. permission of instructor.

Basic experience in diagnosis and treatment of speech disorders; emphasis upon diagnostic tools, appropriate therapy and/or referral processes; majors only.
Category 1.

CD - 315 LANGUAGE THERAPY FOR THE DEAF AND HARD OF HEARING

Prerequisites: CD - 100, 205.

Receptive and expressive language acquisition of the auditorily impaired; appraisal and identification of symptoms and factors associated with language disfunctions.
Category 1.

CD - 320 CLINICAL AUDIOLOGY PRACTICUM I

Prerequisites: CD - 205, majors only, permission of instructor. Course may be taken twice.

Review of clinical and audiometric techniques; assist with clinical testing of out-

patients in the Communication Disorders Clinic.
Category 1.

CD - 400 SPEECH/LANGUAGE PRACTICUM II

Prerequisites: CD - 310, permission of instructor.

Continuation of CD - 310; advanced experiences in diagnostic procedures and appropriate therapies with severe speech/language disorders; majors only.
Category 1.

CD - 405 AURAL REHABILITATION PRACTICUM

Prerequisites: CD - 300 and permission of Instructor.

Basic experience in management of clients with hearing loss; clinical practicum provided.
Category 1.

CD - 410 TESTS AND MEASUREMENTS IN SPEECH CORRECTION

Prerequisite: CD - 100.

Specific consideration of diagnostic tests and procedures used in the diagnosis of speech, language, and hearing disorders.
Category 2.

CD - 415 ORGANIZATION OF PUBLIC SCHOOL SPEECH PROGRAMS

Prerequisites: CD - 205, 210, 215.

Objectives of speech correction programs; organizational guidelines; individual and group practice.
Category 2.

CD - 490 INDEPENDENT STUDY IN COMMUNICATION DISORDERS

Prerequisites: junior and senior majors only, with consent of instructor.

The student will pursue an area of special interest in Speech Pathology or Audiology through research or field experience, under faculty supervision.
Category 1. 1-3 hours.

Graduate Courses

CD8 - 100 INTRODUCTION TO SIGN LANGUAGE

Sign language systems and fingerspelling with emphasis on American Sign Language vocabulary in English word order.

CD8 - 108 INTERMEDIATE SIGN LANGUAGE

Prerequisite: CD8 - 100.

Students gain more facility in sign usage. Receptive and expressive vocabularies are expanded and fluency increased.

CD8 - 110 ADVANCED SIGN LANGUAGE

Prerequisite: CD8 - 108.

Students increase signing ability interacting with deaf people of varied language levels.

CD8 - 115 SPEECH AND LANGUAGE DEVELOPMENT

Surveys the development of speech and language and the processes important to this development. Meets the LD concentration requirement for speech and language.

CD8 - 200 AUDITORY PROCESSING DISORDERS & TECHNIQUES OF REMEDIATION IN THE CLASSROOM

A course designed for school personnel. Includes types of auditory problems, associated symptoms, diagnostic report interpretation and habilitative teaching techniques.

CD8 - 250 IDENTIFICATION AND REMEDIATION OF HEARING DISORDERS IN THE PUBLIC SCHOOLS

Prerequisite: CD - 205.

Screening test techniques utilized in public schools; types of auditory problems; their etiologies; symptomologies and treatment plans.

CD8 - 260 SPEECH AND LANGUAGE PROBLEMS IN THE COGNITIVELY IMPAIRED

Prerequisite: CD - 115.

The etiology, evaluation, diagnosis and intervention of communication disorders in the cognitively impaired population.

CD8 - 280 CLINICAL AUDIOLOGY

Prerequisites: CD - 110, CD - 200, CD - 205.

Tests and techniques for the measurement of auditory processes. Interpretation of the test results and implications for remediation.

CD8 - 310 CURRENT EVENTS IN COMMUNICATION DISORDERS

Prerequisite: Professional in the field.

Review current events in Communication Disorders by reading and evaluating current print and non-print materials dealing with Communication Disorders.

CD8 - 345 APPLICATIONS OF BEHAVIORAL TECHNIQUES IN COMMUNICATION DISORDERS

Applications of precision teaching and behavior modification techniques.

CD8 - 350 PSYCHOLOGY OF DEAFNESS

Effects of hearing loss upon daily work, education and social experiences of children and adults.

CD8 - 400 ARTICULATION DISORDERS

Prerequisites: CD - 100, CD - 105, CD - 110, CD - 115.

Discussion of the anatomy/physiology of the articulatory mechanism. Study of the etiollogy, diagnosis and treatment of functional and organic factors.

CD8 - 460 SPEECH, LANGUAGE AND LEARNING SUPPORT SKILLS

Study of underlying skills (attention, audition, vision, etc.) important in speech, language learning. Helpful in understanding diagnostic reports.

CD8 - 475 THE SPEECH-HANDICAPPED CHILD IN THE SCHOOL

An investigation of communication problems prevalent in school age children. Relationship between language and learning. Suggestions for remedial techniques.

CD8 - 500 ADVANCED CLINICAL CASE MANAGEMENT

Prerequisites: Bachelor's or Master's degree in Communication Disorders and permission of instructor.

Supervised diagnostic and therapeutic experience with a speech and language caseload in the Communication Disorders Clinic.

CD9 - 190 PHONETICS IN THE LANGUAGE ARTS AND READING PROGRAM

An introduction to the acoustic and physiological parameters of the spoken word with practice in transcribing the international phonetic alphabet.

CD9 - 200 RESEARCH IN COMMUNICATION DISORDERS

Prerequisites: CD - 100, CD - 105, CD - 110, CD - 115, CD - 200, CD -205.

Review and critical analysis of research in the field of Communication Disorders. Students will write an original research proposal.

CD9 - 210 PEDIATRIC AUDIOLOGY

Prerequisite: CD8 - 280.

Evaluation, diagnosis, and special problems associated with hearing disorders in infants and preschool children.

CD9 - 225 LANDUAGE DISORDERS IN CHILDREN

Prerequisite: CD - 115.

Discussion of processes interfering with normal language acquisition and the disorders which disturb established language skills in children.

CD9 - 235 LANGUAGE DISORDERS IN ADULTS

Prerequisites: CD - 100, CD - 105, CD - 110, CD - 115, CD - 205.

Discussion of processes and disorders which interfere with and interrupt established language skills of adults. Theories of testing and treatment.

CD9 - 240 THEORIES OF RATE AND RHYTHM DISORDERS

Prerequisites: CD - 100, CD - 110, CD - 115.

An in-depth study of the etiological theories and behaviors of rhythm disorders in children and adults.

CD9 - 250 COMMUNICATION PROBLEMS OF THE AUTISTIC OR SEVERE BEHAVIORALLY/ LANGUAGE DISORDERED

Prerequisites: CD7 - 115, CD9 -225 or 235, CD9 - 400.

Etiology, evaluation/diagnosis and intervention of communication disorders in the autistic or severely behaviorally/language disordered population.

CD9 - 260 AURAL REHABILITATION

Prerequisite: CD8 - 280.

Identification, appraisal, and therapeutic techniques for speech and language through total communication with attention to learning, psychosocial disabilities.

CD9 -270 HEARING AIDS AND HEARING AID SELECTION

Prerequisite: CD8 - 280.

Study of construction of hearing aids and earmolds, methods of patient evaluation, and discussion of criteria for fitting hearing aids.

CD9 - 300 VOICE DISORDERS

Prerequisites: CD - 100, CD - I05, CD - 110, CD - 115.

Discussion of vocal mechanism anatomy, physiology, and pathology. Detailed study of etiology, diagnosis, and treatment of functional and organic voice disorders.

CD9 - 310 CLEFT PALATE

Prerequisites: CD - I00, CD - I05, CD - 110, CD - 115, CD - 215.

Study of development of maxillofacial anomoalies, classification of clefts, surgical repair, associated defects, related speech and language disorders, and treatment.

CD9 - 320 CEREBRAL PALSY

Prerequisites: CD - I00, CD - I05, CD - II0, CD II5, CD - 205.

Etiology, diagnosis, and habilitation of speech and language problems associated with cerebral palsy. In-depth study of neurophysiological approach.

CD9 - 330 EVALUATION AND TREATMENT OF DISORDERS OF RATE AND RHYTHM

Prerequisite: CD - 305.

Methods, theory and practice in preparation and administration of diagnostic objectives and materials.

CD9 - 350 ADVANCED AUDITORY TESTING

Prerequisite: CD8 - 280.

Advanced test techniques for determination of site-of-lesion speech perception, speech discrimination, and central auditory processes.

CD9 - 400 DIAGNOSTIC EVALUATION: METHODS AND PROCEDURES

Prerequisites: CD - 205, CD8 - 400, CD9 - 225 or CD9 - 235.

Intensive study of communication evaluation techniques. Includes test selection, administration, interpretation followed by report writing and remedial planning.

CD9 -440 INDUSTRIAL AND SOCIAL HEARING CONSERVATION

Prerequisite: CD8 - 280.

An investigation of environmental influences upon hearing loss in industry, military and other high noise level environments.

CD9 - 450 ADVANCED ANATOMY, PHYSIOLOGY, NEUROLOGY AND PATHOLOGY OF THE SPEECH AND LANGUAGE SYSTEMS

Prerequisites: CD - 100, CD - 110, CD 115, CD 205.

An in-depth study of the structure, function, and disorders of the speech and language systems.

CD9 - 460 ADVANCED ANATOMY, PHYSIOLOGY, NEUROLOGY, AND PATHOLOGY OF THE AUDITORY MECHANISM

Prerequisite: CD - 205.

An in-depth study of structure, function, and disorders of the auditory system.

CD9 - 500 ACOUSTIC PHONETICS

Prerequisites: CD - 105, CD - 110, CD - 205.

Investigation of acoustic correlates of vocal and phonetic production. Required laboratory use of electro-acoustic equipment in frequency and intensity analysis.

CD9 - 550 INSTRUMENTATION AND STUDIES OF MAJOR RESEARCH AREAS IN SPEECH, VOICE AND HEARING SCIENCE

Prerequisites: CD - 110, CD - 200, CD - 500.

Emphasis upon current instrumentation. Current research will be reviewed and/or replicated. New research will be encouraged.

CD9 - 700 INDEPENDENT STUDY IN COMMUNICATION DISORDERS

Prerequisite: Major in Communication Disorders and permission of instructor.

Students may elect to take an independent study in course content, practicum experience, or independent research. 1-3 credits.

CD9 -800 SEMINAR IN SPEECH PATHOLOGY

Prerequisites: Completion of a minimum of 18 graduate credits in speech pathology and audiology and permission of instructor.

Study and discussion of current research techniques and professional trends in the field of speech pathology. Semester topics will vary.

CD9 - 850 SEMINAR IN AUDIOLOGY

Prerequisites: Completion of a minimum of 18 graduate credits in speech pathology and audiology and permission of instructor.

Study of current techniques, research and professional trends in audiology with topics varying each semester.

CD9 - 900 CLINICAL PRACTICUM IN SPEECH PATHOLOGY

Prerequisites: CD - 205, CD8 - 400, CD9 - 225 or CD9 - 235, CD9 - 400.

Experience in the diagnosis and treatment of speech and language disorders in a variety of clinical settings. Speech pathology majors register for three credits each of two consecutive semesters.

CD9 - 950 CLINICAL PRACTICUM IN AUDIOLOGY

Prerequisites: CD8 - 280, CD8 -400, CD9 - 225, or CD9 - 235, CD9 -400.

Supervised clinical experience in the evaluation of hearing impaired. Audiology majors register for three credits each of two consecutive semesters.

CD9 - 975 AURAL REHABILITATION PRACTICUM

Prerequisite: CD9 - 260.

Supervised clinical experience in the management of hearing-impaired children and adults; coordination between audiological diagnostic and hearing therapy services.

CD9 - 980 SPEECH/ LANGUAGE/ HEARING PROBLEMS IN THE AGED

Prerequisites: CD - 205, CD9 - 225 or CD9 - 235, CD9 - 400, or permission of instructor

Overview of normal processes, comparison of symptoms and manifestation in normal aging, brain disorders, related diseases, as well as pseudosenility.

COMPUTER SCIENCE

Undergraduate Courses

CS - 101 COMPUTERS IN SOCIETY

Topics include survey of data processing, history, software, hardware, types of programming languages, introduction to management information systems, introduction to BASIC language programming.
Category 1.

CS - 111 PROGRAMMING LANGUAGES I

Basic computer operations,functional characteristics, applications in various fields and effect on modern society; familiarization with equipment and terminology; programming in an introductory language.
Category 1.

CS - 212 PROGRAMMING LANGUAGES II

Prerequisite: CS - 111.

Advanced topics in an introductory language including string functions, sequential and random access files, sorting and chaining. Programs will be written which relate to general applications.
Category 1.

CS - 230 PASCAL LANGUAGE PROGRAMMING

Prerequisite: CS - 111.

Using PASCAL to solve various business and scientific problems. Topics include input and output statements, control statements, arrays, subscripts, records, and sets.
Category 2.

CS - 280 MANAGEMENT DATA PROCESSING

Prerequisite: CS - 111.

Management of the data processing function.Security,accuracy, control over hardware, software, and personnel. Evaluation procedures for hardware and software.
Category 2.

CS - 210 DATA COMMUNICATIONS SYSTEMS

Prerequisites: CS - 212 and CS -231 or CS - 250.

Topics include transmission in computer systems, bandwidth, transmissions rates, multiplexing, common-carrier services.
Category 2.

CS - 231 BUSINESS PROGRAMMING I

Prerequisite: CS - 111.

The fundamentals of the COBOL programming language: the purpose of each division, section, paragraph, verb, etc., and how to write programs to solve business problems using sequential file processing techniques.
Category 1.

CS - 232 BUSINESS PROGRAMMING II

Prerequisite: CS - 111.

The fundamentals of the programming language; the purposes and uses of the four basic RPG specification forms, and how to write programs to solve business problems using sequential file processing techniques.
Category 1.

CS - 233 BUSINESS PROGRAMMING III

Prerequisite: CS - 231.

Advanced aspects of the COBOL programming language: table processing, sorting, indexed Sequential and random access files, master file updating and the report writer.
Category 1.

CS - 234 BUSINESS PROGRAMMING IV

Prerequisite: CS - 232.

Advanced aspects of the RPG programming language: table and array processing, indexed sequential and random access files, master file updating and the use of the RPG file extension specifications form.
Category 1.

CS - 250 SCIENTIFIC PROGRAMMING I

Prerequisite: CS - 111.

Mathematical and scientific problem solving using FORTRAN: real and integer arithmetic, input and output, DO-loops, basic FORMAT, subscripted variables, subroutines, double precision and character manipulation.
Category 1.

CS - 251 SCIENTIFIC PROGRAMMING II

Prerequisite: CS - 250.

Higher level aspects of FORTRAN are considered: including advanced programming techniques, common block storage, advanced FORMAT, sequential, indexed sequential, and random

access files and file manipulation.
Category 2.

CS - 280 DISCRETE SIMULATION AND MODELING TECHNIQUES
Prerequisites: CS - 212, MA - 250.
Introduction of a range of analytical and simulation modeling techniques covering queuing, inventory, allocation and scheduling situations. Application of discrete simulation of problems using GPSS and SPSS.
Category 2.

CS - 310 COMPUTER ORGANIZATION AND ASSEMBLER LANGUAGE PROGRAMMING
Prerequisite: CS - 231 or CS -250.
Topics include assembler language programming and the study of a large third generation computer (such as an IBM 370), memory addressing, variable and fixed length words, register use, and other non-privileged instructions.
Category 2.

CS - 315 DIGITAL LOGIC CIRCUITS
Prerequisites: MA - 220, PY - 261.
Topics include application of Boolean Algebra to an analysis of combinatorial and sequential switching circuits. Characterristics of logic elements, memory devices and logic circuits to accomplish code conversion.
Category 3.

CS - 320 MICRO, MINI COMPUTERS
Prerequisite: CS - 231 or CS -250.
Topics include architecture of the new popular small computers, limits, languages,specialized hardware.
Category 1.

CS - 325 COMPARATIVE COMPUTER LANGUAGES
Prerequisites: CS - 230, CS - 231, CS - 250.
Topics include comparison of syntax and semantic descriptions, data types and control, operations and sequencing, ease of use, applicability, generality, non-procedurality and efficiency.
Category 3.

CS - 350 COMPUTER ARCHITECTURE AND OPERATING SYSTEMS
Prerequisite: CS - 212.
Program and data handling software;hardware and software configuration as integrated systems, management and communication systems, advanced software engineering, asynchonous operation, interrupt processing,operating system interfaces.
Category 3.

CS - 361 DATA STRUCTURE AND ALGORITHMS
Prerequisites: CS - 233 or CS -234.
The concepts, design and uses of the various file structures used in EDP: sequential, indexed sequential, random, tree and network. Also, the design, development, implementation, and management of a typical DBMS (i.e. CDC's TOTAL).
Category 2.

CS - 370 COMPILER DESIGN
Prerequisites: MA - 220, CS - 111.
Methods of compiling a high level language into assembler language; a simple compiler to translate a modified BASIC into an assembler language such as MIX will be designed and tested.
Category 3.

CS - 375 BUSINESS SYSTEMS ANALYSIS AND DESIGN
Prerequisite: CS - 231.

All aspects of the analysis, design and implementation of application oriented computer system (i.e. general ledger system, inventory control system, payroll system or production control system).
Category 1.

CS - 380 SYSTEMS PROGRAMMING
Prerequisites: CS - 310 or CS - 320 or CS - 350.
A study of how operating systems interact with user programs, I/O programming, job and task management, interrupt, access modes for ISAM & SAM files;hands-on programming.
Category 3.

CS - 410 DIGITAL COMPUTER ORGANIZATION
Prerequisite: CS - 315.
A study of the internal structure of a typical digital computer from both a logical and a hardware viewpoint; memory devices,arithmetic and control circuits including LSI and MSI components.
Category 3.

CS - 430 ANALYSIS OF ALGORITHMS
Prerequisite: CS - 212.
Teaching proven algorithmic techniques for solving problems and for determining the relative efficiency of different methods.
Category 3.

CS - 440 COMPUTABILITY AND FINITE AUTOMATA
Prerequisites: MA - 220 and CS -212.
Theory of computation, automata theory, recursive function theory, formal grammars. Applications of finite automata theory to various areas of Computer Science will be considered.
Category 3.

CS - 450 MANAGEMENT INFORMATION SYSTEMS
Prerequisite: CS - 375.
Use of computers in constructing a MIS system. Definition, design criteria, implementation considerations and administration of the system.
Category 2.

CS - 498 INTERNSHIP
Prerequisite: consent of instructor.
Working in and for an organization where one's skills can be tested in real situations. The purposes: opportunity to gain experience; to increase one's knowledge in various functional areas; and to establish important contacts with an organization.
Category 3.

CS - 499 INDEPENDENT STUDY
Prerequisite: consent of department.
To offer advanced students an opportunity to examine topics not normally taught in other math or computer courses. Geared to the interests of both the student and the instructor.
Category 1. 1-6 hours.

Graduate Courses

CS8 -100 ASSEMBLER PROGRAMMING
Complete exposure to assembler programming, including the creating of business oriented programs.

CS8 - 150 WORKSHOP IN COMPUTER SCIENCE
Students will be introduced to the computer — both hardware and software and will, through the use of a programmed text, be taught BASIC. Practical use of the computer will be stressed.

CS8 - 175 COMPUTER PRINCIPLES

Familiarization with various elements of computer technology. A thorough understanding and application of programming in BASIC will be developed.

CS8 - 200 COMPUTER PROGRAMMING WITH FORTRAN IV

Prerequisite: CS - 111.

Considers the uses of computers for mathematical and scientific problem-solving;input and output statements, program branching, Do-loops, formatting, subscripted variables,subroutines, double-precision, character manipulation,and flowcharting.

CS8 - 230 PROGRAMMING IN PASCAL

Prerequisite: CS - 111.

Using PASCAL to solve various business and scientific problems: input and output statements, control statements, arrays subscripts, records and sets.

CS8 - 250 COBOL LANGUAGE PROGRAMMING

Prerequisite: CS - 111.

Writing COBOL language programs
utilizing cards, tape and disk files.

CS8 - 275 FUNDAMENTALS OF SYSTEMS ANALYSIS

Prerequisite: CS - 231 or CS8 -250.

All aspects of systems design and implementation: the feasibility study, problems definition.

CS8 - 278 RPG PROGRAMMING

Prerequisite: CS - 111.

Writing RPG programs oriented to practical business problems.

CS8 - 280 COMPUTER WORKSHOP IN COBOL PROGRAMMING

Prerequisite: CS - 111.

Introduction of COBOL, analysis of COBOL division, a survey of reserve words and action verbs; programming solutions to inventory, payroll, student records, sort/merge problems in COBOL for tape or disc.

CS8 - 300 USING THE STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES SPSS

Utilization of SPSS integrated system for the analysis of social science data; descriptive statistics, simple frequency distributions, cross tabulations, simple correlation, multiple regression, and factor analysis.

CS8 - 400 DATA FILE STRUCTURES

Prerequisites: CS - 231 or CS8 -250.

The concepts and usages of various file structures including sequential, index-sequential, random, tree and plex structures: the design, implementation and management of data base systems.

CS8 - 410 HARDWARE, MICRO, MINI, AND GENERAL SYSTEMS

Prerequisite: Any computer language course.

The technical aspects of computer systems as they relate to programming and systems development.

CS8 - 420 MANAGEMENT OF DATA PROCESSING

Prerequisite: CS - 111.

Hardware and software evaluation, scheduling and controlling systems development projects, privacy and security for hardware,software, and data bases, and accuracy controls in programming, data entry, and operations.

CS8 - 425 INFORMATION SYSTEMS

Prerequisite: CS8 - 275.

Includes information systems, file creation and maintenance, report generation and modeling and simulation.

CS8 - 430 SYSTEMS SIMULATION

Prerequisites: MA - 301 and CS -212 or CS - 25l.

The methods and procedures involved in planning and designing simulation models. Course projects will use the simulation language GPSS to develop applications of computer models to queuing, inventory and sched-ing systems.

CS8 - 450 SEMINAR IN DATA PROCESSING

Prerequisites: CS - 111, CS - 231.

A final preparation for the CDP exam offered by ICPP. It will bring together all the previous courses and will introduce new topics of general interest to prospective data processing employees.

CS9 - 100 NUMERICAL METHODS USING COMPUTERS

Prerequisites: CS8 - 200, MA - 310.

Numberical algorithms, techniques, and practical procedures for computer application. Standard algorithms from calculus, linear algebra, differential equations, and numerical analysis are considered.

CS9 - 220 ADVANCED FORTRAN

Prerequisite: CS8- 200.

Higher level aspects of FORTRAN are considered; including advanced programming techniques, common block storage, advanced FORMAT, sequential files, and file manipulation.

CS9 - 275 ADVANCED COBOL

Prerequisite: CS8 - 250.

Problems and principles in the automatic handling of large information files utilizing a variety of input-output and storage devices. Data processing, including searching, sorting, advanced programming techniques, files creation and file maintenance.

CS9 - 278 PROGRAMMING WITH R.P.G.

Prerequisite: CS8 - 278.

Provides a broad foundation in RPG as applied to the IBM. 360/370 and IBM. System/3: applications to business-oriented problems. Programming techniques will be utilized.

CS9 - 280 ASSEMBLER LANGUAGE: IBM 360/370

Prerequisite: CS8 - 175.

Computer structure and system organization.Machine language IBM 360 and 370 architecture, instruction execution, addressing techniques and digital representation of data; structure of assemblers; program segmentation and linkage; and macro facilities; numerical and non-numerical projects.

CS9 - 290 HIGHER LEVEL PROGRAMMING IN PASCAL

Prerequisite:CS8 - 230.

The language PASCAL will be studied using examples and problems. PASCAL utilizes the natural structure of algorithms and data to increase readability. PASCAL programs, loops,iterative procedures, data structures, etc. will be examined.

CS9 - 291 HIGHER LEVEL PROGRAMMING IN APL

Prerequisite: Any computer-language course.

APL will be studied via examples and problems. Data structures, arithmetic function, relation func-
tions, vectors, etc. will be examined in detail. APL is a structural language.

CS9 - 300 APPLIED INFORMATION SYSTEMS

Prerequisite: CS8 - 275.

Basic systems analysis skills and programming in a business language. Designing and programming specific business systems on case studies.

CS9 - 990 SEMINAR IN COMPUTER SCIENCE

Prerequisite: Minimum of 18 credits in Computer Science courses.

Topics in Computer Science.

COUNSELOR EDUCATION

Graduate Courses

CE8 - 100 INTRODUCTION TO PUPIL PERSONAL SERVICES

Provides the student with an understanding of the need, meaning and scope of guidance services. Principles and practices ofare considered:

CE8 - 200 GROUP PSYCHOLOGICAL TESTING

Principles of psychological testing will be presented with emphasis placed on the role of the counselor and school psychologist in the selection and interpretation of individual and group psychological tests. This is a required course for all students matriculated in the Counselor Education program.

CE8 - 250 THEORIES OF SELF-ASSESSMENT AND LIFE/WORK PLANNING

Theories of individual self-assessment. The work of Bolles, Crystal, Holland and other proponents of self-assessment will be examined.

CE8 - 300 THEORIES OF COUNSELING

Fundamental techniques and theories of counseling. Students will examine various theories of counseling and through the use of role playing develop basic techniques in counseling.

CE8 - 310 COUNSELING APPROACHES FOR DEATH AND DYING

An examination of the experience of dying from psychological, sociological, and cultural perspectives.

CE8 - 320 ART THERAPY

Contribution of art therapy with emphasis on both the creative role of the artist and the healing and empowering role of the therapist as it affects human development.

CE8 - 400 COUNSELING AND GUIDANCE IN THE ELEMENTARY SCHOOL

Various counseling techniques, evaluation process, organization and administration of guidance programs within the elementary school setting.

CE8 - 500 COUNSELING THE PHYSICALLY HANDICAPPED

Basic disadvantages handicapped people face in our society today and the role of the guidance counselor.

CE9 - 100 PSYCHOLOGICAL COUNSELING STRATEGIES

Prerequisite: CE8 - 300.

Developmental and Gestalt insight approaches, as well as behavioral approaches to counseling, will be analyzed for their effectiveness with a variety of psychological problems.

CE9 - 140 COUNSELING THE ALCOHOLIC AND DRUG ABUSER

A study of alcohol and other drug abuse(physiologically, psychologically). Various treatment modalities will be examined.

For additional Counselor Education courses, see pages 280 and 281.

ECONOMICS

Undergraduate Cources

EC - 100 INTRODUCTION TO MACROECONOMICS

An introduction to economic analysis with particular emphasis upon the national problems of achieving and maintaining full employment, general price stability and growth of the American economy through time.
Category 1.

EC - 101 INTRODUCTION TO MICROECONOMICS

An introduction to the operation of the American market system and to the behavior of its participants whether consumers,producers,the government, or other nations engaged in international trade with the United States.
Category 1.

EC - 102 CONSUMER ECONOMICS

An in-depth study of personal and family economics, of obtaining income, buying wisely, consumer borrowing, saving, and financial investment; the growing consumer protection and consumer legislation movements will be specifically emphasized.
Category 1.

EC - 200 MACROECONOMICS
Prerequisite: EC - 100.

An intermediate analysis of the determination of the level and growth of national income and employment; special attention given to the problems of inflation and recession and to the national fiscal and monetary policies designed to maintain full employment and stable price levels.
Category 1.

EC - 201 MICROECONOMICS
Prerequisite: EC - 101.

An intermediate level treatment of the theory of market pricing in a private enterprise system as it affects the resource and output decision of firms and industries under various market structures and the behavior of consumers.
Category 1.

EC - 202 LABOR ECONOMICS
Prerequisite: EC - 101.

A study of the process of wage determination in a market economy; consideration given to the evolution of union organization and collective bargaining affecting wages, hours, working conditions and grievance procedures for labor.
Category 2.

EC - 203 GOVERNMENT POLICY TOWARDS BUSINESS
Prerequisite: EC - 101.

An analysis of the problems of competition and monopoly, especially as they affect concentration of economic activity and market power in the American industrial structure; emphasis is placed upon government policy to maintain or regulate competition in the interest of public welfare.
Category 2.

EC - 204 COMPARATIVE ECONOMIC SYSTEMS
Prerequistes: EC - 100 and EC - 101.
A comparative study of the theory, institutions, and problems of advanced economic systems and their historical background; particular attention given to capitalism, socialism, fascism and communism.
Category 2.

EC - 205 MONETARY ECONOMICS
Prerequisite: EC - 100.
The historical and theoretical development of the American monetary system of commercial banks and financial intermediaries; emphasis on the role of monetary controls and policy as partial solutions to full employment, price stability, and economic growth problems.
Category 2.

EC - 206 URBAN ECONOMICS
Prequisite: EC - 100.
The theory and policy of the growth and development of metropolitan areas; some of the policy-related problems discussed are poverty, residential and commercial land use, and traffic congestion.
Category 2.

EC - 207 STATISTICS
Prerequistie: For majors only.
Basic tools of statistical analysis appropriate to research in the social sciences; topics include measures of central tendency, hypotheses testing, time series, index numbers, regression and correlation.
Category 1.

EC - 208 ECONOMICS OF HEALTH CARE
Prerequisites: EC - 100, EC - 101.
Introductory study of the health care industry of the United States; pricing of healthcare, manpower availability, alternative delivery systems, third party payments, and government role in planning, regulating and financing health care.
Category 3.

EC - 210 ECONOMICS OF ENERGY MANAGEMENT
Prerequisites: EC - 101, NS - 260.
Principles and methods of cost estimating and money management in production of heat and power; residential, commercial and industrial applications.
Category 3.

EC - 300 INDUSTRIAL REVOLUTIONS
Prerequisites: EC - 100, EC - 101.
Historic cases of industrialization will be examined in terms of modern economic development and any implication for presently underdeveloped economies.
Category 3.

EC - 301 ECONOMIC DEVELOPMENT
Prerequisites: EC - 100, EC - 101.
A survey of contemporary economic theories concerning less developed countries; social, cultural, and political forces shaping the development of such countries are also investigated.
Category 2.

EC - 302 DEVELOPMENT PLANNIONG AND REGIONAL ECONOMICS
Prerequisites: EC - 100, EC - 101.
A survey of the problems that must be dealt with by less-developed countries in planning their economic development. Theories of regional economics applicable to both developed and less developed economies.
Category 2.

EC - 303 RADICAL THOUGHT AND THE AMERICAN ECONOMY
Prerequisites: EC - 100, EC - 101.

Radical critiques, especially neo-Marxist ones, of corporate power, unemployment and inflation; how these forces influence U.S. government economics policies.
Category 3.

EC - 304 ECONOMICS OF THE ENVIORONMENT
Prerequisite: EC - 101.
Methods of pollution control and the socio-economic problems caused by pollution, current research on ecology and economics, and the impact that limits on pollution may have on income and population growth.
Category 3.

EC - 305 INTRODUCTION TO MATH ECONOMICS
Prerequisite: EC - 100.
A survey of some basic mathmatical techniques appropriate to the analysis of economic models and application of economic theory.
Category 2.

EC - 306 INTRODUCTION TO ECONOMETRICS
Prerequisite: EC - 100.
The application of statistical techniques to the verification of economic models and examination of problems.
Category 2.

EC - 308 INTERNATIONAL TRADE
Prerequisites: EC - 100, EC - 101.
Reasons why nations gain by spatial specialization and exchange with other countries. Analysis of themechanism by which international disequilibrium is restored. Studyof trade and foreign exchange policies.
Category 3.

EC - 309 PUBLIC SPENDING AND TAXATION
Prerequisites: EC - 100, EC - 101.
An analysis of government spending, revenue sharing, and taxation; includes the impact of government spending upon efficient use of resources and national growth.
Category 2.

EC - 310 POST-WAR STABILIZATION POLICIES
Prerequisites: EC - 100, EC - 101.
U. S. stabilization policies since 1945. Of special concern will be the relative merits of Monetarist and Neo-Keynesian viewpoints about stabilization policy in light of the historical record.
Category 3.

EC - 400 INDEPENDENT STUDY IN ECONOMICS
Prerequisites: EC - 101 and permission of instructor.
For the student whose needs cannot be fully met by available offerings; actual arrangement to be made between student and professor; not intended for general enrollment; a limit of six semester hours can be acquired.
Category 3.1-3 hours.

EC - 401 SEMINAR
Prerequisite: Permission of instructor.
A research and discussion process intended to summarize and provide some career orientation to the undergraduate preparation of the economics major at the senior class level.
Category 3.

EC - 402 INTERNSHIP IN ECONOMICS
Prerequisite: Advanced standing in major in economics, high achievement, and the consent of the staff coordinator.
Practical experience in economic analysis with industry and non-profit organizations and government agencies; internships may be of varying length.
Category 3. 1-12 hours.

Graduate Courses

EC8 - 125 MACROECONOMICS IN A MONETARY ECONOMY
Prerequisite: EC - 100.
Aggregate spending and asset-holding decisions within the American economy both in conventional flow variable (consumption, investment) and monetary variable (supply of money) terms.

EC8 - 150 ECONOMETRICS
Prerequisite: Any Economics course.
Three-way marriage of computers, statistics, and economic theory.

EC8 - 200 OUR ENVIRONMENT: AN ECONOMIC VIEWPOINT
This course is concerned with the two-way street between the environment and production.

EC8 - 210 CONTEMPORARY PROBLEMS AND ISSUES IN ECONOMICS
The application of economic principles to current issues and problems.

EC8 - 250 PUBLIC POLICY TOWARD INDUSTRY
Prerequisite: A principles of Economics course.
Surveys public policies designed to maintain or reduce competition in industry or to regulate industry. Case studies incorporated into class work.

EC8 - 300 CONSUMER ECONOMICS
A basic study of personal and family finance with emphasis on the various avenues of obtaining income and budgeting expenditures.

EC8 - 350 URBAN ECONOMICS
The economic view of cities, and their problems.

EC8 - 400 WORKSHOP IN ECONOMIC EDUCATION
Basic ideas of Economics. Acquaints students with free print and nonprint materials concerning Economics which are available to social studies teachers; some of these will be used during the course.

EC8 - 450 COMPARATIVE ECONOMIC SYSTEMS
The ideological basis, the theoretical foundations, and the

EDUCATION

Undergraduate Cources

ED - 100 DEVELOPMENTAL READING
Reading comprehension. Practice in reading and study skills for freshmen and new transfer students only.
Category 1.

ED - 105 SELF-ASSESSMENT AND CAREER AWARENESS
Students will be able to articulate with clarity a statement of self identification.
Category 1.

ED - 110 ORIENTATION TO EARLY CHILDHOOD EDUCATION
Historical and philosophical overview of programs in day care centers, Head Start centers, nursery schools and kindergarten.
Category 1.

ED - 135 INTRODUCTION TO TEACHING & LEARNING

The theoretical and practical dimensions of elementary education.
Category 1.

ED - 155 EMERGING OPPORTUNITIES FOR EDUCATORS

The emerging career roles of the "educator". Recommended for students interested in learning about the broad area of education.
Category 1.

ED - 185 INTRODUCTION TO MODERN EDUCATION

Designed to acquaint and inform the citizen, taxpayer, and prospective parent about education in today's society. Not for the Education major or minor.
Category 2.

ED - 210 CREATIVE EXPERIENCE IN THE CURRICULUM FOR YOUNG CHILDREN

Prerequisite: ED - 110.

Development and analysis of creative approaches and materials in art, music, drama, and movement that stimulate creative experiences for the young child.
Category 1.

ED - 211 CURRICULUM DESIGNS FOR YOUNG CHILDREN

Prerequisites: ED - 110,210, PS -210.

Planning programs physical environment (materials, equipment arrangement and organization): evaluation of young children through observation as a basis for curriculum planning.
Category 1.

ED - 212 HUMAN INTERRELATIONSHIPS IN EARLY CHILDHOOD EDUCATION

Prerequisites: PS - 210, ED 211.

Group dynamics and systems involved in educating the young child in day care centers, nursery schools, Head Start centers and kindergartens.
Category 1.

ED - 245 CAREER EDUCATION IN THE ELEMENTARY SCHOOL

Career education in the elementary school; awareness, concepts, objectives, exploration and evaluation of career education.
Category 1.

ED - 246 LIBRARY SKILLS IN THE ELEMENTARY SCHOOL

For description see ME - 305.
Category 1.

ED - 255 LEARNING SKILLS FOR ADOLESCENTS (11-19)

Prerequisites: Admission to Teacher Preparation Program, and/or minor in Secondary Education, or permission of instructor.

How to teach reading, study, and communication skills. Methods and materials appropriate to developmental stages, special needs, and social, racial and linguistic background of students.
Category 1.

ED - 256 FUNDAMENTAL APPROACHES FOR TEACHING ADOLESCENTS (11-19)

Prerequisites: PS - 215, Admission to Teacher Preparation Program; and/or minor in Secondary Education, or permission of instructor.

The practical teaching/learning implications of curricular resources and instructional skills.
Category 1.

ED - 257 INDIVIDUALIZING LEARNING FOR ADOLESCENTS (11-19)

Prerequisites: Admission to Teacher Preparation Program, and/or minor in Secondary Education, or permission of instructor.

Individualized study programs and learning activities packets; used individually with students in the Developmental Skills Program, and in the area middle and secondary schools.
Category 1.

ED - 258 EVALUATING CLASSROOM LEARNING

Prerequisites: Admission to Teacher Preparation Program, and/or minor in Secondary Education, or permission of instructor.

Evaluating instruction, student readiness and achievement, using measures appropriate to middle and secondary schools. Students will utilize self-evaluation techniques and processes.
Category 1.

ED - 285 INTRODUCTION TO CHILDREN WITH SPECIAL NEEDS

Prerequisite: PS - 210.

Special Needs (Learning Disabilities), designed to orient prospective teachers with the problems of children with special needs.
Category 1.

ED - 286 IDENTIFICATION OF THE PRESCHOOL CHILD WITH SPECIAL NEEDS

Prerequisites: PS - 230.

Developing skills for the identification of special needs in a child.
Category 1.

ED - 300 EDUCATIONAL PSYCHOLOGY

Prerequisite: PS - 110. Upper classmen.

Learning and developmental processes, motivation, retention, relationships of intelligence and achievement, creativity, personality, affective aspects of learning.
Category 1.

ED - 301 HISTORY AND PHILOSOPHY OF EDUCATION

Contemporary problems of education in relation to selected ancient, medieval, and modern philosphers of education.
Category 1.

ED - 302 EDUCATIONAL MEASUREMENT AND EVALUATION

Study, construction, and evaluation of instruments in education; intrepretation of data; criteria for selection and evaluation of behavioral objectives and standarized tests.
Category 1.

ED - 303 URBAN EDUCATION

Development of understanding of the social, psychological, and educational problems of the culturally different; strategies and techniques for teaching in the inner-city practicum.
Category 1.

ED - 304 EDUCATION AND RACE RELATIONS

The role of education in the promotion of interracial understanding.
Category 1.

ED - 305 CREATIVE THOUGHT AND MINORITY EXPERIENCE

Provides opportunities for students to discover, explore, evaluate, appreciate and collate examples and illustrations of creative expression in verbal forms as they are related to the minority experience in America.
Category 1.

ED - 306 METHODOLOGY AND PRACTICE IN BILINGULAL EDUCATION

Introduction to the problems and methods of teaching subject matter to students whose native language is other than English.
Category 1.

ED - 307 CREATIVE PROBLEM SOLVING

Utilizing Piaget's three basic periods of operation (preoperational, concrete and formal) in assisting the teacher to become aware of the means by which the child expands his perception of the world.
Category 1.

ED - 308 PRINCIPLES OF GUIDANCE

Prerequisites: Juniors and Seniors. Education minors only.

Considers role of guidance and counseling in the school; teacher's responsibilities as a functioning member of the guidance staff.
Category 1.

ED - 309 TEACHING FOR CREATIVITY

Varying definitions of creativity and current measures of this construct; emphasis on student projects presented to class as simulated learning experiences.
Category 1.

ED - 310 EARLY CHILDHOOD EDUCATION, METHODS AND MATERIALS CORE

Prerequisites: ED - 110, ED - 210, ED - 212, ED - 310.

Identifying the issues related to the integrations of theory and practice focusing on the total social, emotional, academic and physical development of preschool-kindergarten child.
Category 2. 15 hours.

ED - 311 FIELD EXPERIENCE IN EARLY CHILDHOOD EDUCATION

Prerequisite: To be taken concurrently with ED - 300.

ED - 312 EVALUATING CHILDREN'S PROGRESS

Prerequisite: ED - 210.

Understanding and intrepretaiton of the results of psychological and educational tests of children of preschool age; seminar and discussions of children in a variety of child-care settings.
Category 2.

ED - 313 LITERATURE FOR YOUNG CHILDREN

Investigation of books and other materials for preschoolers; study of effective procedures for reading aloud to youngsters.
Category 2.

ED - 314 APPROACHING READING WITH YOUNG CHILDREN

Overview of the reading process; basic reading readiness skills and strategies for teaching these; initiating beginning reading procedures for children who are ready to read.

ED - 316 ORGANIZATION AND SUPERVISON OF PROGRAMS IN EARLY CHILDHOOD EDUCATION

Prequisite: ED - 420.

Organiation and supervision of programs in early childhood education.
Category1.

ED - 335 METHODS AND MATERIALS, BLOCK I-MATHEMATICS, SCIENCE, SOCIAL STUDIES

Prerequisites: ED - 135, PS - 110, PS - 210.

The concepts, attitudes, values, objectives, curriculum, materials and media of the 3 subject areas.
Category 1-9 credits.

ED - 336 METHODS AND MATERIALS, BLOCK II, READING LANGUAGE ARTS, CHILDREN'S LITERATURE

The current status of the subject; the spiral of skills development through the grades; selection, demonstration and evaluation of teaching techniques and materials.
Category 1.9 credits.

ED - 337 CURRENT TRENDS IN THE TEACHING OF READING

Prerequisite: ED - 336.

Review of innovations, assessment of latest instructional materials; overview of research and current implementation of changes in reading instruction.
Category 1.

ED - 338 READING IN THE ELEMENTARY SCHOOL

Prerequisite: To student teaching.

Intensive overview of the basic reading skills; effective teaching strategies; utilization of multimedia in reading instruction.

ED - 339 CHILDREN'S LITERATURE

facets of literature for children and criteria for the selection of each; techniques of preparation and use.
Category 1.

ED - 340 LANGUAGE ARTS FOR PRIMARY GRADES

The inter-relatedness of the language arts; functional ways of working with young children; creative development of critical thinking.
Category 1.

ED - 341 LANGUAGE ARTS IN THE ELEMENTARY SCHOOL

The functional and creative aspects of oral and written expression; development of language power in relation to child growth.
Category 1.

ED - 342 MATHEMATICS IN THE ELEMENTARY SCHOOL

Prerequisite to student teaching. Techniques for teaching arithmetic in the elementary school; emphasis on material development and classroom evaluation of materials and techniques.
Category 1.

ED - 343 SOCIAL STUDIES IN THE ELEMENTARY SCHOOL

The aims, methods, and materials involved in teaching social studies.
Category 1.

ED - 344 SCIENCE IN THE ELEMENTARY SCHOOL

Prerequisite to student teaching. Science in the elementary school; objectives, curriculum, materials, current practices, trends in science teaching.
Category 1.

ED - 345 PROBLEMS OF INSTRUCTION IN ELEMENTARY SCHOOL SCIENCE

Prerequisites: ED - 335, or consent of instructor.

Identification of problems; adaptation of available materials, and resources.
Category 1.

ED - 346 LINGUISTICS FOR READING TEACHERS

Linguistics:use of current texts with a linguistic viewpoint, phonology and morphology. History of the Development of the linguistic view.
Category 1.

ED - 355 THE FOUNDATIONS OF CURRICULUM AND INSTRUCTION AT THE MIDDLE AND SECONDARY SCHOOL

Prerequisites: Admission to the Teacher Preparation Program, and/or a minor in Education (Required for Practicum in Teaching).

The curriculum,the needs and interests of students in the middle and secondary school. The ancillary pupil services for meeting special needs of these students. School visitations, examination of curriculum materials, mini-teaching, etc.
Category 1.

ED - 356 CURRICULUM, METHODS AND MEDIA IN TEACHING HEALTH STUDIES (5-12)

Prerequisites: ME - 140 & ME -145;Admission to the Teacher Preparation Program, and/or a major in Health Studies, and/or a minor in Education, or permission of instructor.(Required for Practicum in Teaching Health Studies).

Techniques in the teaching of health studies.
Category 1.

ED - 357 CURRICULUM METHODS AND MEDIA IN TEACHING MATHEMATICS

Prerequisites: ME - 140 & ME -145; Admission to the Teacher Preparation Program, and/or a minor in Education, or permission of instructor. (Required for Practicum in Teaching Mathematics).

Techniques in the teaching of Mathematics .
Category 1.

ED - 358 CURRICULUM, METHODS AND MEDIA IN TEACHING PHYSICAL SCIENCES

Prerequisites: ME - 140 & ME -145;Admission to the Teachers Preparation Program and/or a minor in Education.

Techniques in teaching the Physical & Natural Science.
Category 1.

ED - 359 CURRICULUM METHODS AND MEDIA IN TEACHING BIOLOGY

Prerequisites: ME - 140 & ME- 145; Admission to the Teacher Preparation Program, and/or minor in Education, or permission of instructor.

Techniques in teaching the Physical & Natural Sciences.
Category 1.

ED - 360 CURRICULUM, METHODS AND MEDIA IN TEACHING THE BEHAVIORAL SCIENCES

Prerequisites: ME - 140 & ME -145; Admission to the Teacher Preparation Program, and/or minor in Education , or permission of instructor. (Required for Practicum in the teaching of the Behavioral Sciences.)

Techniques in teaching the behavioral sciences (including history, psychology, sociology, and anthropology).
Category 1.

ED - 361 CURRICULUM METHODS AND MEDIA IN TEACHING SOCIAL STUDIES

Prerequisites: ME - 140 & ME -145; Admission to the Teacher Preparation Program and/or a minor in Education, or permission of instructor. (Required for Practicum in teaching Social Studies).

Techniques in teaching Social Studies.
Category 1.

ED - 362 CURRICULUM, METHODS AND MEDIA IN TEACHING ENGLISH

Prerequisites: ME - 140 & ME -145; Admission to the Teacher Preparation Program, and/or minor in Education, or permission of instructor. (Required for Practicum in teaching English).

Techniques in teaching English.
Category 1.

ED - 3673 CURRICULUM, METHODS AND MEDIA IN TEACHING FRENCH

Prerequisites: ME - 140 & ME -145; Admission to the Teacher Preparation Program, and/or perminor in Education or permission of instructor. (Required for Practicum in teaching French).

Techniques in teaching French.
Category 1.

ED - 364 CURRICULUM, METHODS AND MEDIA IN TEACHING SPANISH

Prerequisites: ME - 140 & ME -145; Admission to the teacher Preparation Program, and/or a minor in Education, or permission of instructor. (Required for Practicum in the teaching of Spanish.)

Techniques in the teaching of Spanish.
Category 1.

ED - 365 CURRICULUM, METHODS AND MEDIA IN THE TEACHING OF BUSINESS MANAGEMENT (5-12)

Preerquisites: ME - 140 & ME -145; Admission to the Teacher Preparation Program, and/or a minor in Education, or permission of instructor. (Required of Practicum in the teaching of Business Management.)

Techniques in teaching business courses.
Category 1.

ED - 370 CURRICULUM, METHODS AND MEDIA IN TEACHING IN THE MIDDLE SCHOOL

Prerquisites: ME - 140, ME -145; Admission to the Teacher Preparation Program, and/or minor in Education, or permission of instructor. (Required for practicum in teaching at the Middle School.)

Techniques in teaching the subject matter of the middle school.
Category 1.

ED - 385 ASSESSMENT OF CHILDREN WITH SPECIAL NEEDS

Prerequisites: ED - 285, ED - 286.

Considers the psychological and educational deficiencies of children with special needs; students will administer and interpret formal and informal tests to synthesize their results with available clinical information to build a picture of learning functions of special-needs child.
Category 1.

ED - 386 PRESCRIPTIVE TECHNIQUES AND MATERIALS FOR CHILDREN WITH SPECIAL NEEDS

Prerequisites: ED - 285, ED - 286, ED - 385.

Focus on teacher competencies for examining nad devising methods and materials for the child with special learning needs; application of the diagnostic information will be related to the child's unique approach.
Category 1.

ED - 387 EDUCATION OF THE GIFTED

Prerequisites: PS - 210 or PS -215. Junior and Senior education majors and minors.

The identification, characteristics and personality factors of the gifted; the teacher's role and various organizational patterns; innovative procedures and techniques to nurture creativity.
Category 1.

ED - 388 CLASSROOM TECHNIQUES FOR SPECIAL NEEDS CHILD WITH SOCIAL AND EMOTIONAL PROBLEMS

A consideration of behavioral and classroom management,including applied behavior analysis, contingency management, behavior modification, the group process, counseling and other therapeutic techniques.
3 credits.

ED - 389 THE SLOW LEARNER IN THE ELEMENTARY SCHOOL

Diagnostic and remedial measures studies, analyzed and applied to the slow learner (IQ 70 to 90) in the elementary school.
Category 1.

ED - 390 READING AND THE OPEN SCHOOL

Prerequisites: ED - 335, ED - 336.

A review of learning style and scheduling instruction in an Open School; examines literature on how reading is taught in the Open School.
Category 1.

ED - 392 THEORETICAL AND PRACTICAL FOUNDATION OF THE OPEN CLASSROOM

Prerequisites: ED - 435, or tutoring experience.

Theoretical and practical aspects of the open classroom.
Category 1.

ED - 393 COMMUNITY RESOURCES FOR CHILDREN IN THE ELEMENTARY SCHOOL

Prerequisite: Upperclassmen.

Primarily for elementary teachers to survey programs and resources available in the community, the state, and at national levels.
Category 1.

ED - 394 THE COMMUNITY SCHOOL CONCEPT

Prerequisites: Upperclassmen or consent of instructor.

A basic introduction to the community school and the concept of community education.
Category 1.

ED - 395 THE EDUCTOR AND CULTURAL DIVERSITY

Prerequisite: Upperclassmen.

To enable the educator to better understand the roots of diverse cultures in America. Emphasis will be given to the contributions of American Indians, Chicanos, and Puerto Ricans.
Category 1.

ED - 400 SEMINAR: CHILDREN WITH SPECIAL NEEDS

Prerequisites: ED - 295, ED - 385, ED - 386, ED - 400.

Research related to specific problems of children with special needs through the presentation of seminar papers. Praticum experience is required of all students.
Catgegory 1.

ED - 405 DIRECTED STUDY IN CURRICULUM METHODS AND MEDIA IN TEACHING

Prerequisites: ME - 140 & ME -145; Approval of the Education Department Chairperson and a representative of the content area department.

Techniques in teaching of the subject matter.
Category 1.

Graduate Courses

ED8 - 115 ADMINISTRATION OF FEDERAL PROGRAMS

Emphasis will be placed on the content of the law as well as the administration problems dealing with implementation of regualtions.

ED8 - 160 READING NEED OF THE ADULT LEARNER

Procedures and techniques for teaching reading to under-educated adults; to include beginning reading, comprehension, prescription and evaluation.

ED8 - 200 THE COMMUNITY SCHOOL CONCEPT

A basic introduction to the community school and the concept of community education; involves various structures and strategies in bringing school constituency into the process of education.

ED8 - 210 ORGANIZATIONAL PATTERNS OF THE COMMUNITY SCHOOL

National, state and local patterns of organizations within the Community Education movement will be developed. The community school concept will be explored as it relates to the theory of orgaizations.

ED8 - 215 CURRICULUM DEVELOPMENT FOR ALTERNATIVE EDUCATION

Participants will engage in the development of alternative programs and strategies based on available community resources.

ED8 -216 THE ROLE OF THE FAMILY IN THE COMMUNITY SCHOOL

The relation of the community education concept to family life. The role of the family unit in the development of educational goals will be explored.

ED8 - 220 COMMUNITY RESOURCES TO MEET CHILDREN'S NEEDS

Resources available in the community, state, and at national levels; social and family services; health, medical and mental health facilities; consideration of new concepts in health care and juvenile programs.

ED8 - 225 WORKSHOP: TRAIN THE TRAINER

For entry-level trainers (those with less than two years' experience) and for individuals interested in further exploring training and human resource development.

ED8 - 240 NEW PERSPECTIVES IN URBAN EDUCATION

A study of;the changing role of the urban school with emphasis upon shared accountability of administration, staff and clients.

ED8 - 255 VOLUNTEERS IN THE COMMUNITY

Develops and articulates a philosphy reagarding volunteerism.

ED8 - 265 WORKSHOP: CURRENT STRATEGIES IN ADULT BASIC SKILLS INSTRUCTION

New approaches for designing programs for undereducated adults, with particular emphasis on the Adult Performance Level Program,, life skills, and competency-based adult education.

ED8 - 270 COMMUNITY COMMUNICATION AND ORGANIZATION

Emphasis will be placed in this course on The Development of Community School Advisory Council. The role, policy and purpose of these groups will be developed.

ED8 - 275 COMMUNITY POWER FOR ADULTS

An exploration of neighborhood power with an emphasis on issue orientation. Participants will consider the theoretical background of community organization and then develop a plan to act on a neighborhood issue.

ED8 - 276 TEACHING ESL TO ADULTS

Teaching non-English speaking adults. Relevant concepts in learning theory and linguistics, teaching techniques and the necessary skills .

ED8 - 280 THE PRACTICE OF ADULT EDUCATION

An overview of Adult Education with major emphasis placed on the scope of the field, legislation pertaining to Adult Education and future developments.

ED8 - 305 EARLY CHILDHOOD REVISITED

Historical and philosophical influences in early childhood.

ED8 - 315 DEVELOPMENT OF MATH ACTIVITIES FOR THE CHILD THROUGH SEVEN YEARS

Games and activities designed to help young children develop an awareness of and appreciation for mathematics.

ED8 - 320 CURRICULUM FOR EARLY CHILDHOOD EDUCATION

Studies the components of designing a curriculum for young children including content and organization of program, facilities and arrangement of space, staffing, evaluation, parent and community relationships.

ED8 - 325 LITERATURE FOR YOUNG CHILDREN

Survey of quality literature appropriate for early childhood; development of programs in literature, effective storytelling procedures.

ED8 - 330 METHODS AND MATERIALS IN EARLY CHILDHOOD EDUCATION

Focuses on activities designed to enable young children to use their abilities to the fullest.

ED8 - 331 LANGUAGE DEVELOPMENT AND READING READINESS IN YOUNG CHILDREN

Focues on the role of language and its development in the total early childhood program.

ED8 - 334 DEVELOPMENT OF READING READINESS AND BEGINNING READING ACTIVITIES FOR THE YOUNG CHILD

Development of activities and materials based upon study of

the reading readiness skills and of beginning reading approaches.

ED8 - 335 EXPLORING SCIENCE IN EARLY CHILDHOOD EDUCATION

Study of science within the conceptual ability of the young child.

ED8 - 336 LANGUAGE DEVELOPMENT AND COMMUNICATION

Role of language and its development during the early childhood years.

ED8 - 337 MOTOR DEVELOPMENT IN THE YOUNG CHILD

Overview of research and techniques regarding the significance of physical activity in the early childhood years.

ED8 -339 DAY CARE IN URBAN SETTINGS

This course will explore the sociocultural concepts of urban early childhood education.

ED8 - 346 EVALUATION AND REMEDIATION TECHNIQUES OF YOUNG CHILDREN WITH SPECIAL NEEDS

Multi-disciplinary approach to the evaluation of children with special needs.

ED8 - 347 DEVELOPING MATERIALS FOR YOUNG CHILDREN WITH SPECIAL NEEDS

Design and construction of materials to meet the specific needs of young children.p

ED8 - 348 MUSIC FOR YOUNG CHILDREN

A variety of ways to present music to young children will be studied.

ED8 - 349 MUSIC FOR YOUNG CHILDREN

A participation course in which participants learn and practice a variety of ways to present music to young children.

ED8 - 355 MAKE IT WORKSHOP FOR K-3 LANGUAGE ARTS

Participants in this workshop will be developing stimulating learning games for use in their classrooms.

ED8 - 356 MAKE IT WORKSHOP FOR K-3 MATH

The primary math skills of number sequence, computation, place value, fractions, time, money,inequalities, roman numerals perceptual development and attribute activities will be presented.

ED8 - 390 SPECIAL PROBLEMS IN EARLY CHILDHOOD EDUCATION

This course will focus on the Child Development Association Competencies.

ED8 - 395 PRACTICUM IN EARLY CHILDHOOD EDUCATION

An intensive supervised field experience involving daily interaction with young children of ages three-five.

ED8 - 405 CHILDREN UNDER STRESS

This course will deal with abuse/neglect, symptoms of child stress: resolution/community responsibility.

ED8 - 410 CONSUMER PROBLEM SOLVING: (GRADES 2-6)

Designed to stress the usefulness of mathematics through viewing the many ways it

directly relates to a youngster's life.

ED8 - 412 ENERGY EDUCATION FOR ELEMENTARY TEACHERS

Designed to give teachers some of the basic knowledge of the principles and concepts of energy and energy utilization.

ED8 - 416 MODERN MATHEMATICS IN THE PRIMARY GRADES

Explore methods for coordinating mathematics activities, and to strengthen logical thinking as well as the typical quantitative skills associated with mathematics curricula for little children.

ED8 - 417 HUMANIZING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL

Investigation into the component disciplines of the Social Studies and their impact on shaping recent curriculum and specific teaching strategies.

ED8 - 418 DEVELOPING INDEPENDENT MATHEMATICS FOR CHILDREN

Surveys commericial materials and teacher-made games which can be adapted for use in traditional and open-classroom situations.

ED8 - 419 MODERN MATHEMATICS IN INTERMEDIATE GRADES

Fundamental concepts and techniques of arithmetic at intermediate grades.

ED8 - 425 INDIVIDUALIZING INSTRUCTION IN ELEMENTARY SCHOOL

Several approaches to individualization in the elementary school.

ED8 - 426 NEW ELEMENTARY SCHOOL SCIENCE

Examines, major objectives, teaching methodology and materials of the newer elementary science curricula.

ED8 - 427 SCIENCE ACTIVITIES FOR THE ELEMENTARY SCHOOL

Examines several approaches to the teaching of instruction in elementary school science.

ED8- 431 ECONOMIC EDUCATION IN THE ELEMENTARY SCHOOL

An understanding of the place of Economic Education in the Elementary School Curriculum.

ED8- 442 MUSIC IN THE ELEMENTARY SCHOOL

Explores the role of music in contemporary education.

ED8 - 445 CAREER EDUCATION IN THE ELEMENTARY SCHOOL

Focuses upon the inegration of career education into the elementary curriculum.

ED8 - 450 INDIVIDUALIZAING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL

An intensive workshop focusing on developing a learning unit utilizing an activity card approach to individual or small group activities.

ED8 - 455 INTEGRATING ETHNIC STUDIES INTO THE CLASSROOM

Development of multi-ethnic and multi-cultural resources.

ED8 - 461 METRIC EDUCATION FOR THE CLASSROOM TEACHER

Designed to provide teachers with a hands-on appraoch to learning this simple and logical system.

ED8 - 462 DISCIPLINE: SUCCESSFUL CLASSROOM MANAGEMENT

Emphasis will be placed upon the teachers role and part on establishing a positive classroom/school atmosphere.

ED8 - 470 LEARNING CENTERS

A consideration of the development of Learning Centers: the effectiveness and limitations; emphasis on techniques and approaches to their use.

ED8 - 480 STRATEGIES FOR BEHAVIOR PROBLEMS

A consideration of the variety of techniques available to coping with behavior problems confronting teachers and parents.

ED8 - 485 ENERGY CONSERVATION FOR THE ELEMENTARY CLASSROOM TEACHER

Effective classroom techniques and concepts will be designed and explored with regards to a wide range of Energy Conservation instructional progrms.

ED8 - 489 NEWSPAPERS IN EDUCATION WORKSHOP

Newspapers will be explored for their historical aspects, evolution into modern newspapers, their actual composition, freedom of the press, and behind the scenes work and production aspects.

ED8 - 490 CREATIVE MATERIALS AND ENVIRONMENT IN THE ELEMENTARY SCHOOL

The climate for creativity and stimulating creativity in the classroom will be developed.

ED8 - 493 PROBLEMS IN THE IMPROVEMENT OF INSTRUCTION

Emphasis will be to identify various techniques and strategies that may be used to improve instructional activities in the elementary school classroom.

ED8 - 494 DEVELOPMENT OF CURRICULUM MATERIALS IN ELEMENTARY SCHOOL SCIENCE

Develop Science curriculum materials for use with children.

ED8 - 500 READING IN THE ELEMENTARY SCHOOL

Intensive overview of the basic reading skills, effective teaching strategies and utilization of multi-media in elementary reading instruction.

ED8 - 503 INTEGRATING READING INTO ELEMENTARY MATHEMATICS

The effects of reading instruction in mathematics, problem solving and content acquisition will be studied.

ED8 - 504 READING IN A CONTINUOUS PROGRESS SETTING

Methods and materials to assist the classroom teacher, the reading specialist and reading teachers in setting goals and developing programs for children learning at different rates.

ED8 - 509 CRITICAL ISSUES IN READING 1980 AND BEYOND

Focuses on reoccurring problems in Reading which continue to surface and confront educators at all levels.

ED8 - 517 TEACHING READING TO THE INNER CITY CHILD: MATERIALS AND TECHNIQUES

Concentration on methods found most effective in teaching of reading in target-area schools.

ED8 - 527 THE PARENT'S ROLE IN THE READING PROGRAM

Study of many ways children learn to read; development of reading skills; parent's role in reading process.

ED8 - 535 DEVELOPING INDEPENDENT LEARNING ACTIVITIES IN READING AND LANGUAGE ARTS

Investigates the teaching of reading in the elementary school from the standpoint of other language arts.

ED8 - 565 TEACHING READING IN THE MIDDLE GRADES

This course is designed to assist those dealing with teaching reading to middle grade students.

ED8 - 570 ENRICHED LANGUAGE ARTS IN ELEMENTARY SCHOOL

This course is planned for teachers in the elementary school (K-6) to develop materials and methods that will enrich the teaching of language arts.

ED8 - 580 THE NATURAL WAY TO READING

Participants in this course will learn to apply the techniques in *The Natural Way to Reading.*

ED8 - 588 THE ROLE OF THE READING SPECIALIST IN INSTRUCTION AND PROGRAM DEVELOPMENT

Explores the function of the reading specialist within the framework of the school system.

ED8 - 620 EDUCATION OF CHILDREN WITH SPECIAL NEEDS

A general consideration of the education for exceptional children.

ED8 - 705 COMPUTER SKILLS FOR CLASSROOM TEACHERS (6-12)

This course will provide teachers with an introduction to Computer Programming (Basic), the use of Computer terminals, and computer applications in the classroom.

ED8 - 720 COMPARATIVE EDUCATION

Focus on differing organization and methods of education in several foreign countries.

ED8 - 756 SECONDARY SOCIAL STUDIES CURRICULUM

Examination and evaluation of several social studies curriculi at secondary level.

ED8 - 760 CLASSROOM MANAGEMENT TECHNIQUES FOR SECONDARY SCHOOL TEACHERS

Provide an overview for various classroom management techniques that may be used in secondary schools.

ED8 - 765 TEACHING METHODS & SKILLS FOR MIDDLE AND HIGH SCHOOLS

Students will demonstrate competencies in the appropriate techniques and media use in the teaching at the middle and secondary school.

ED8 - 770 HUMANISTIC EDUCATION

Approaches to blend affective and cognitive approaches to learning. Concentrates on students' values, feelings, and self-concept.

ED8- 775 TEACHING SECONDARY SCHOOL MATHEMATICS

Current secondary math curriculum, emphasizing effective teaching practices.

ED8 - 810 LINGUISTICS

Introduction to Linguistics: Traditional and contemporary theories of phonology, grammar, semantics and semiotics, with emphasis on transformational-generative approach.

ED8 - 820 THE PSYCHOLOGY OF LEARNING A SECOND LANGUAGE AND DERIVED METHOLOGIES

Introduction of analysis of errors made by learners of a second language. Contrastive analysis of grammatical structures of English and Spanish.

ED8 - 830 THE UNDERSTANDING AND TEACHING OF CULTURE

Approaches to cultural analysis and survey of techniques used to teach culture in the classroom. Conducted in Spanish.

ED8 - 840 ESL METHOLOGY

Topics in second language acquisition and applied teaching methology in teaching English to speakers of other languages.

ED8 - 850 FOUNDATION OF BILINGUAL-BICULTURAL EDUCATION

The rationale for bilingual education, its typology and survey of successful programs. Special consideration of the provisions of Title VII and the Massachusetts bilingual law.

ED8 - 860 BILINGUAL-BICULTURAL CURRICULUM

Theory, design and development of bilingual-bicultural Curriculum, leading toward and understanding of the factors affecting curriculum in bilingual-bicultural settings.

ED8 - 870 METHODS AND MATERIALS IN THE BILINGUAL PROGRAM

Survey of methods and materials in the subjects taught in the bilingual schools.

ED8 - 915 DRIVER AND TRAFFIC SAFETY EDUCATION, PART I

The professional preparation of candidates for secondary school teaching in Driver and Traffic Safety Education.

ED8 - 920 DRIVER AND TRAFFIC SAFETY EDUCATION, PART II

A study of the role of alcohol as a drug in relation to traffic safety.

ED8 - 927 EDUCATIONAL MEASUREMENT AND EVALUATION

Considers the nature of measurement, its purpose and value in the learning situation, the types of measuring techniques to be employed.

ED8 - 935 EDUCATION OF THE SELF

This course gives students a

chance to experience curricular approaches aimed at self awareness and growth.

ED9 - 101 SCHOOL BUSINESS MANAGEMENT AND ADMINISTRATION

Studies the interaction between school management services and the total educational organization and its environment.

ED9 - 103 FUNDAMENTALS OF SCHOOL FINANCE

Considers the financial support and the allocation of resources in public education.

ED9 - 105 PUBLIC SCHOOL ADMINISTRATION

A historical, philosophical and sociological study of American School Administrator with a major emphasis on the function, duties and responsibilities of the school administrator.

ED9 - 108 SCHOOL SUPERINTENDENCY

Studies the typical problems associated with the school superintendency.

ED9 - 110 EDUCATIONAL LAW

An in-depth investigation of specific school laws and how they relate to the administration of the role of the teacher and administrator.

ED9 - 116 ADMINISTRATIVE CASE STUDIES

Administrative principles and practices emerging from the study of case materials forms basis for class discussion.

ED9 - 120 HUMAN RELATIONS FOR ADMINISTRATORS

Examines the processes by which individuals attempt to reconcile their needs with the needs and demands of others.

ED9 - 127 ORGANIZATION AND ADMINISTRATION OF THE OPEN SECONDARY SCHOOL

The many facets of elementary school administration and organization; the role of the principal as an administrator in the larger setting of present day education stressed.

ED9 - 130 SEMINAR IN ADMINISTRATIVE THEORY

A seminar course exploring selective administrative theory and its application to modern day educational problems.

ED9 - 135 SEMINAR IN PUBLIC SCHOOL ADMINISTRATIVE LEADERSHIP

Explores the most modern trend of educational administration technology.

ED9 - 140 CURRICULUM DEVELOPMENT SEMINAR FOR ADMINISTRATORS

A seminar course in curriculum theory, curriculum constructs and curriculum hypothesis.

ED9 - 145 EDUCATIONAL PERSONNEL ADMINISTRATION

Study of the policies and problems associated with the selection, assignment, orientation, in-service programs, evaluations, promotion, and retention of the professional and non-professional staff of a school system.

ED9 - 150 COLLECTIVE BARGAINING STRATEGIES

A survey course on the basic designs, strategies and mechanisms used in preparing collective bargaining packages, counter proposals and final proposals.

ED9 - 157 EDUCATIONAL SUPERVISION & EVALUATION

Designed to develop competency in the supervision and evaluation of teachers.

ED9 - 158 ORGANIZATION AND ADMINISTRATION OF MIDDLE AND SECONDARY SCHOOL

The role of the principal and assistant principal in the administration of the secondary school will be thoroughly examined.

ED9 - 162 ADMINISTRATION OF PROGRAMS FOR CHILDREN WITH SPECIAL NEEDS

Examines the implications of the legislation for administrators who are responsible for implementing these programs.

ED9 - 165 INTELLECTUAL FOUNDATIONS OF AMERICAN EDUCATION

This course will stress the foundations of American education, primarily in the Twentieth Century.

ED9 - 172 GRANTSMANSHIP FOR THE TEACHERS & ADMINISTRATOR

A basic course for beginning grantsman; designed to show the beginner how to construct a grant.

ED9 - 177 SEMINAR: SCIENCE SUPERVISION

Uses a problem-solving approach to examine the needs and responsibilities of today's Science Supervisor.

ED9 - 185 PRACTICUM IN EDUCATIONAL ADMINISTRATION

A 300 clock hour practicum in an area of educational administration.

ED9 - 190 SPECIAL PROBLEMS IN SCHOOL ADMINISTRATION

A field based experience designed around a special problem in administration of a school system.

ED9 - 195 ACTION RESEARCH PROJECT I

Students will enroll for two (2) consecutive semesters for this course. During the two semesters, students will meet both in large groups and individually in developing their Action Research Projects.

ED9 - 196 ACTION RESEARCH PROJECT II

Second semester of required two (2) semester consecutive course. Enrollment in both semesters is mandatory. During the two semesters, students will meet both in large groups and individually in developing their Action Research Projects.

ED9 - 200 PROGRAMS FOR THE AGING

This course will help participants examine issues, problems and procedures in designing and implementing programs for older adults.

ED9 - 210 THE COMMUNITY SCHOOL: IT'S ADMINISTRATION AND SUPERVISION

An understanding of community education administration developed for each student in order to effectively prepare them to operate a community school.

ED9 - 215 TEACHING THE ILLITERATE ADULT

An understanding of the scope of adult illiteracy and the methods and procedures for teaching adult illiterates to read.

ED9 - 220 COMMUNITY SCHOOL: PROCESSES AND PROBLEMS

Develops a theory of community education and tests the assumptions established as necessary parts of a successful community school.

ED9 - 225 WORKSHOP IN ADULT BASIC EDUCATION

Workshops will focus on specific topics of adult education, such as life skills or writing materials for adults.

ED9 - 235 URBAN EDUCATION II

Emphasis on the identification of developmental levels and problems of inner city children.

ED9 - 245 SOCIAL AND CULTURAL FOUNDATIONS OF URBAN EDUCATION

Exploration of the social and cultural factors which influence urban youth as well as urban schools.

ED9 - 250 HISTORY AND PHILOSOPHY OF ADULT EDUCATION

Emphasizes adult education as a unique segment and change-agent in the broad field of education.

ED9 - 255 DIRECTED STUDY IN ADULT EDUCATION

Prerequisites: Course in Adult Education and permission from the director of Adult Education.

Intended for graduate students who have a background in the field and who have the opportunity to critically analyze a special problem or personal interest in Adult Education.
Category 1. 6 credits.

ED9 - 260 PSYCHOLOGY OF THE ADULT LEARNER

Explores methods of learning which apply to adults. Identifies educational needs and problems of the adult learner in overcoming learning difficulties.

ED9 - 270 PROGRAM PLANNING FOR ADULTS

Examines the process of selecting components for adult programs and setting up the administrative structure to deal with them.

ED9 - 275 ADMINISTRATION IN ADULT EDUCATION

Explores effective strategies for establishing and attaining realistic goals when faced with administrative concerns such as funding, staff, facilities, and equipment.

ED9 - 280 INTERNSHIP IN ADULT BASIC EDUCATION.

Prerequisites: Completion of courses related to practicum and permission of the Director of the Adult Education Graduate Program.

Participants will have the opportunity to work in an adult education program to obtain guided practical experience.

ED9 - 290 SPECIAL PROGRAM IN COMMUNITY EDUCATION

The student will work closely with the instructor in the compilation and development of information concerning a particular problem that is current in the field today.

ED9 - 291 INTERNSHIP IN COMMUNITY EDUCATION

Designed to develop practical experience in the field in a leadership position. Placement under supervision in a Community school or other approved agency. Consent of the instructor is necessary for registration.

ED9 - 296 SPECIAL PROBLEMS IN URBAN EDUCATION

Seminar for experienced teachers wishing to examine specific problems in urban education.

ED9 - 305 CASE STUDIES OF YOUNG CHILDREN

Each student undertakes a systematic exercise in gathering and interpreting material on an individual child.

ED9 - 320 INTELLECTUAL DEVELOPMENT IN EARLY CHILDHOOD EDUCATION

Examines the intellectual levels of children based on current research including Piaget, etc.

ED9 - 325 EVALUATION OF THE YOUNG CHILD

Understanding and interpretation of the results of psychological and educational tests applicable for use with young children of preschool age.

ED9 - 350 SUPERVISION AND ADMINISTRATION IN EARLY CHILDHOOD EDUCATION

Outlines steps for the organization and administration of day care centers, nursery schools, and other programs for young children.

ED9 - 360 THE PRE-SCHOOL CHILD WITH SPECIAL NEEDS

Detection, evaluation and remediation of learning disabilities in young children from three years.

ED9 - 380 SEMINAR IN EARLY CHILDHOOD EDUCATION

Current issues and problems in the field of Early Childhood Education will be discussed.

ED9 - 385 INDEPENDENT RESEARCH IN EARLY CHILDHOOD EDUCATION

This course is for students wishing to pursue independent study in a specialized area of Early Childhood Education.

ED9 - 407 BEHAVIOR MODIFICATION

The course will emphasize the various techniques and approaches to behavior modifications from the point of view of the teacher and the parent.

ED9 - 408 EDUCATION OF THE SLOW LEARNER

This course is an overall consideration of the various methods and techniques for teaching the slow learner (I.Q.70-90).

ED9 - 409 THE GIFTED CHILD

Methods for identifying the gifted student;characteristics and personal factors of the gifted; techniques and approaches for curriculum development.

ED9 - 410 THEORY AND RESEARCH IN THE ELEMENTARY SCHOOL CURRICULUM

Prerequisite: Research in Education.

Emphasizes ability to recognize, select, and pursue independent action research in one or more areas of the elementary school curriculum.

ED9 - 412 INDIVIDUALIZING SCIENCE IN ELEMENTARY SCHOOL

Approaches to individualism of instruction in elementary school science.

ED9 - 414 TEACHING STRATEGIES FOR MULTI-ETHNIC STUDIES

Designed to meet the basic instructional needs required for the effective teaching of ethnic studies in today's classrooms.

ED9 - 416 IMPROVING SOCIAL STUDIES TEACHING STGRATEGIES

A process approach to improving the conceptual and skill development of elementary students focusing on the cognitive and affective skills pertinent to the social sciences.

ED9- 417 SOCIAL STUDIES CURRICULUM AND MATERIALS

Current elementary curriculum will be explored for their structure, specifically in terms of their incorporation of the various social science disciplines.

ED9 - 420 SEMINAR IN CURRENT ISSUES IN ELEMENTARY EDUCATION

Prerequisites: Three courses at the graduate level in elementary education which have been approved by the student's advisor.

Symposium approach will be flexible and contemporary; readings, participation in the Seminar, and a written treatise of the pros and cons of major issues required.

ED9 - 430 SEMINAR IN SOCIAL EDUCATION

Current issues and problems will serve as initiators for individual research into relevant areas of investigation in social education.

ED9 - 500 FOUNDATIONS OF READING

Prerequisites: A previous course in reading and/or permission of the instructor.

Reading growth examined in terms of learning modalities, current research and effective practice.

ED9 - 505 CURRENT TRENDS IN THE TEACHING OF READING

Prerequisite: A previous course in Reading or permission of instructor.

Includes an overview and evaluation of recent innovations in the teaching of reading.

ED9 - 506 CURRENT STRATEGIES AND TECHNIQUES IN ELEMENTARY SCHOOL READING

Review of current methods of teaching basic reading skills. Examination of current diagnostic techniques for analyzing reading deficits and the development of appropriate prescription strategies.

ED9 - 507 CURRENT STRATEGIES AND TECHNIQUES IN SECONDARY SCHOOL READING

Examines current theories of developmental, corrective and remedial reading at the secondary school level.

ED9 - 509 READING IN THE SECONDARY SCHOOL

Consideration given to aspects of development, corrective and remedial reading at the high school level.

ED9 - 510 PSYCHOLOGY IN TEACHING READING

Provides an understanding of the psychological bases of the reading process; applies the theories of the psychologist to classroom situations.

ED9 - 512 ADVANCED STUDY IN THE TEACHING OF LANGUAGE ARTS AND READING

Prerequisites: A language arts course at the undergraduate level taken within the past 5 years from an accredited institution

and a course in Children's Literature.

Focuses on teaching reading and language arts skills through children's books, innovative methods, materials and games devised by participants in the course.

ED9 - 515 LINGUISTICS AND LANGUAGE ACQUISITION OF THE READING TEACHER

Presents the history of the English language, phonology, morphology, synyax, semantics, language variations, nonverbal communication, language acquisition and their relation to elementary reading.

ED9 - 516 TEACHING LANGUAGE AND READING IN THE INNER CITY

Emphasis will be placed specifically on the difficulties many black children encounter in school in language arts classes.

ED9 - 520 DIAGNOSIS OF READING DISABILITIES

Intensively studies reading tests. Student identifies and assesses reading disabilities through the administration of the above. Field-based experience included.

ED9 - 525 REMEDIATION OF READING DISABILITIES

Investigates materials and strategies for remediation. Student prepares and implements corrective programs of instruction. Field-based experience included.

ED9 - 530 TEACHING READING IN THE CONTENT AREAS

Presents meaningful theory and related teaching strategies to aid pupils in reading and learning from their content area text books.

ED9 - 535 LITERATURE IN THE CLASSROOM

Introduces a balanced selection of literature and broadens the student's acquaintance with the exciting world of books from kindergarten through high school.

ED9 - 540 SEMINAR IN THE ADMINISTRATION AND SUPERVISION OF READING PROGRAMS

Examines and evaluates programs through current theories, developmental and remedial aspects, staff development and laws pertaining to special needs.

ED9 - 545 ADVANCED SEMINAR IN CHILDREN'S LITERATURE

Current issues and problems in the presentation of children's literature and their implications for teaching will be examined.

ED9 - 546 READING PROGRAMS: IMPLEMENTATION AND ADMINISTRATION

An analysis of various reading programs: a review of organizational patterns, instructional strategies, curriculum supportive materials and evaluation techniques: A study of the administrative roles and responsibilities essential to effective reading instruction.

ED9 - 550 READING STRATEGIES FOR THE READING DISABLED CHILD

Consideration of the factors in remediating the child who has reading disabilities; techniques and approaches to alleviate such conditions.

ED9 - 558 STUDENT CENTERED LANGUAGE ARTS

Developmental English Curriculum featuring variety of innovative approaches and assignments for secondary school.

ED9 - 560 RESEARCH IN THE TEACHING OF LANGUAGE ARTS AND READING

Research studies that have been done in the areas of language arts and reading. The history and origins of our english language will be explored.

ED9 - 570 LAB PRACTICUM IN LANGUAGE ARTS AND READING IN THE ELEMENTARY SCHOOL

Children with language and reading problems will be helped using innovative materials and methods.

ED9 - 575 CREATIVE WRITING FOR PUPILS IN THE ELEMENTARY SCHOOL

Characteristics of creative student writing. Ways in which these characteristics can be developed and strengthened in children's writings.

ED9 - 600 DEVELOPMENTAL PATTERNS OF CHILDREN WITH SPECIAL NEEDS

Basic understanding of the child with special needs, including the characteristics, psychological, educational and sociological impact of developmental deviations.

ED9 - 605 EDUCATIONAL-MEDICAL TEAM: MAINSTREAMING THE HANDICAPPED

Examine the medical and educational aspects of mainstreaming the physically handicapped.

ED9 - 609 NEUROPSYCHOLOGICAL ASSESSMENT AND SCHOOL PROBLEMS

Prerequisite: A basic grounding in psycho-educational testing and consent of instructor.

Neuropsychological assessment procedures and their application in a school setting.

ED9 - 610 ANALYSIS AND INTERPRETATION OF CHILDREN'S BEHAVIOR AND LEARNING ENVIRONMENT

Evaluative procedures used to assess academic, cognitive, affective and behavioral functioning of the child. Formal and informal techniques for evaluating the effectiveness of instruction will be examined.

ED9 - 620 DEVELOPMENT AND IMPLEMENTATION OF AN INDIVIDUALIZED EDUCATIONAL PLAN

Considers federal and state laws regulating the development and implementation of individualized educational plans.

ED9 - 625 CLASSROOM MANAGEMENT TECHNIQUES

Discussion of the basic principles and procedures for behavior management/behavior modification and their implementation in a school setting including treatment design as related to I.E.P. development.

ED9 -630 PROGRAM DEVELOPMENT AND EVALUATION

Examination of current and proposed organizational plans for the delivery of services; application of research findings to cur riculum effectiveness; program evaluation in terms of meeting the individual needs within the total school structure.

ED9 - 640 CONSULTING AND INTERPERSONAL SKILLS

Focuses on the theories and techniques of consultation.

ED9 - 650 PRACTICUM FOR THE GENERIC CONSULTING TEACHER

A field based experience in which the student demonstrates his competencies in the delivery of indirect services: consultation, assessment procedures, educational planning, classroom management, curriculum development and in-service education.

ED9 - 710 CURRENT ISSUES IN EDUCATION

Examination of the more important issues facing education. Emphasis will be placed on problem solving and case study approaches.

ED9 - 715 EDUCATION & RACE RELATIONS

Designed to provide a background of understanding of the role of the school in the development of interracial understanding; it will include a study of members of the class.

ED9 - 730 CAREER EDUCATION IN THE SECONDARY SCHOOL

Developing a successful model for implementing a career education program in the secondary classrooms; awareness of available materials and teaching strategies which may be used.

ED9 - 750 BEGONE DULL GRAMMAR

Preview of causes for failures of past grammar approaches; experiencing of alternative approaches to achieve grammar objectives.

ED9 - 760 INDIVIDUALIZED INSTRUCTION IN THE SECONDARY SCHOOLS

Examines ways in which teachers may individualize instruction in the secondary schools.

ED9 - 780 SECONDARY EDUCATION PROJECT/SEMINAR

Prerequisite: Completion of 21 semester hours of M.Ed. Concentration in Secondary Education.

Integrating of required, core, and elective courses as applied to secondary education in general, and specifically to school stituations of participants.

ED9 - 785 SECONDARY SCHOOL TEAM TEACHING

Explores various models of teams teaching in secondary schools.

ED9 - 804 RECENT RESEARCH IN CURRICULUM DEVELOPMENT AND INSTRUCTION IN SCIENCE

Analysis of recent research in science education (K-12) and consideration of implications for curriculum designing in science and for improvement of classroom teaching.

ED9 - 810 PRINCIPLES OF CURRICULUM DEVELOPMENT

Aspects of curriculum development - society, culture, learning theories, taxonomics of educational objectives, structure, hierarchy, balance, politics, strategy for change, and relationship to instruction.

ED9 - 815 THEORIES OF INSTRUCTION

Historical, philosophical, and psychological foundations of various theories of instructions.

ED9 - 820 EVALUATION OF CLASSROOM LEARNING

Focus on techniques of

classroom evaluation, including stating objectives, devising learning contracts, observation techniques, and classroom test construction.

ED9 - 825 ANALYSIS OF CURRICULUM PROGRAMS

Prerequisite: Principles of Curriculum Development.

Current curriculum programs in Grades Nursery - 12, an analysis of objectives, descriptive characteristics, and theoretical foundations. Student-devised criteria used to assess curriculum programs.

ED9 - 825 ANALYSIS OF CURRICULUM PROGRAMS

Prerequisite: Principles of Curriculum Development.

Current curriculum programs in Grades Nursery -12, an analysis of objectives, descriptive characteristics, and theoretical foundations. Student-devised criteria used to assess curriculum programs.

ED9 - 830 SEMINAR IN CURRICULUM INSTRUCTION

Prerequisite: Theories of Instruction, Principles of Curriculum Development and Analysis of Curriculum Programs.

Opportunities for discussion and evaluation of curriculum and instruction as applied to a real or theoretical construct.

ED9 - 960 RESEARCH AND EVALUATION

Includes application of research and evaluation methods & designs including gathering and analyzing data, writing research and evaluation reports.

ED9 - 970 ADVANCED PHILOSPHICAL FOUNDATIONS OF EDUCATION

Designed to examine the basic philosophical principles of some major philosophers and to demonstrate how their ideas effect contemporary educational theories in the western tradition.

ENGLISH

Undergraduate Courses

EN - 100 ENGLISH FOR COMMUNICATION SKILLS

Prerequisite: Consent of instructor.

Individualized instruction in the English language to meet specific needs of foreign students.
Category 1.

EN - 101 ENGLISH COMPOSITION I

Review of mechanics and other writing principles with practice in writing sentences, paragraphs and short essays. (Required of all freshmen unless exemption is granted by the department .)
Category 1.

EN - 102 ENGLISH COMPOSITION II

A continuation of EN 101. Further emphasis on writing and analysis of selected readings; instruction in the technique of research and the writing of a research paper. (Required of all freshmen unless exemption is granted by the department).
Category 1.

EN - 105 INTRODUCTION TO LITERATURE

A critical introduction to the principal genres of literature: poetry, drama, and fiction.
Category 1.

EN - 110 SURVEY OF AMERICAN LITERATURE I

American literature, beginnings to the Civil War; colonial and federal periods and transcendentalists.
Category 1.

EN - 111 SURVEY OF AMERICAN LITERATURE II

American literature since the Civil War; naturalism and realism.
Category 1.

EN - 120 SURVEY OF ENGLISH LITERATURE I

The development of English literature from the beginnings to 1789; required of all English majors.
Category 1.

EN - 121 SURVEY OF ENGLISH LITERATURE II

The development of English literature from 1789 to the present; required of all English majors.
Category 1.

EN - 130 WORLD LITERATURE I

Greek and Roman masterpieces in translation, including Homer, Greek tragedy, Plato, and Virgil, as well as selections from the Bible.
Category 1.

EN - 131 WORLD LITERATURE II.

World masterpieces from the Renaissance to the modern period, with emphasis on continental works in translation.
Category 1.

EN - 140 INTRODUCTION TO POETRY

Examination and appreciation of the techniques and types of poetry including the sonnet, the pastoral, the mock heroic, and the ode.
Category 1.

EN - 145 INTRODUCTION TO DRAMA

Theories and development of tragedy and comedy: plays of Sophocles to Eugene O'Neill as illustrations of these and related genres.
Category 1.

EN - 150 THE SHORT STORY

Introduction to the art of the short story though analysis of representative works.
Category 1.

EN - 152 THE NOVELETTE

The major practitioners of the novelette over the past century: Conrad, Mann, Kafka, Dostoyevsky, and others.
Category 1.

EN - 154 TWENTIETH-CENTURY LITERATURE

Major literary trends of the twentieth century.
Category 1.

EN - 156 MYTHOLOGY

Myths and legends of ancient Greece and Rome which form a part of the classical tradition in English literature.
Category 1.

EN - 158 SCIENCE FICTION

The nature and function of nineteenth and twentieth century science fiction literature: Wells, Verne, Asimov, Bradbury, and others.
Category 3.

EN - 160 THE LITERATURE OF THE BIBLE

Biblical writings;emphasis will

be placed on the Old Testament.
Category 1.

EN - 162 AMERICAN FOLKLORE

A multi-genre approach will be used in the study of American folklore and folk life. Some field work will be required.
Category 3.

EN - 167 LITERATURE AND HUMAN RIGHTS

An analysis of international creative writing dealing with the subject of human rights. Resource persons from different fields will be utilized.
Category 2.

EN - 168 FILM AND LITERATURE

An examination of the fundamental rhetorical techniques of film and literature to determine the similarities of and differences between the two forms of expression. Various genres: the literary essay and novel and the filmed documentary and screenplay.
Category 2.

EN - 170 THE SEARCH FOR IDENTITY: LITERATURE OF SELF DISCOVERY

Analysis of several literary works which deal with the experience of self-discovery and what various authors have tried to say about the nature of the self: Conrad,Hesse, D.H. Lawrence, Tolstoy, and others.
Category 3.

EN - 202 MEDIEVAL ENGLISH LITERATURE

Prerequisite: EN 120.

English literature from the twelfth to the fifteenth centuries with a focus on lyric poetry, ballads, the mystery and morality plays, *Piers Plowman,* the Pearl Poet and Sir Thomas Malory.
Category 2.

EN - 204 MEDIEVAL COMPARATIVE LITERATURE

Ideas of medieval Christianity, courtly love, and chivalric honor as they appear in *The Song of Roland,* Arthurian romances, the Grail legend, the story of Tristan and Iseult, *The Romance of the Rose, Troubadour lyrics,* and *The Divine Comedy.*
Category 2.

EN - 206 THE RENAISSANCE

Prerequisite: EN 120.

The non-dramatic literature of Tudor England; emphasis on More, Wyatt, Sidney, Spenser, and the earlier works of Shakespeare, Donne, and Bacon.
Category 2.

EN - 208 SEVENTEETH-CENTURY LITERATURE

Prerequisite: Completion of the freshman year.

Prose and poetry of the era with special attention to the major works of Jonson and Donne.
Category 2.

EN - 210 EIGHTEENTH-CENTURY LITERATURE

Prerequisite: EN 120.

The major figures of the Enlightenment with particular emphasis on Neo-Classicism: Dryden, Pope, Swift, Johnson, and Boswell.
Category 2.

EN - 212 THE ENGLISH NOVEL OF THE EIGHTEENTH CENTURY

Prerequisite: Completion of the freshman year.

Purpose, range, and developments in the novel of the eighteenth century: Defoe, Richardson, Fielding, Smollett, Sterne, and others.
Category 2.

EN - 214 THE ENGLISH NOVEL OF THE NINETEENTH CENTURY
Prerequisite: Completion of the freshman year.
Representative nineteenth-century novelists: Austen, Bronte, Dickens, Thackeray, Eliot, Hardy, Conrad, and others.
Category 2.

EN - 216 THE MODERN BRITISH NOVEL
Prerequisite: Completion of freshman year.
Selected works of major British novelists from 1900 through WWII: Joyce, Lawrence, Woolf, Forster among others.
Category 2.

EN - 218 ROMANTIC LITERATURE
Prerequisite: Completion of freshman year.
Poetry and prose with special emphasis on the poetry of Wordsworth, Coleridge, Shelley, Byron, and Keats.
Category 1.

EN - 220 VICTORIAN POETRY
Prerequisite: Completion of freshman year.
Emphasis on Tennyson, Browning, Arnold, and Swinburne as thinkers and stylists; readings in Rossetti, Hopkins Houseman, Hardy, and others.
Category 2.

EN - 224 CONTINENTAL NOVELISTS I
Prerequisite: Completion of freshman year.
European novelists of the 19th and 20th centuries including Dostoyevsky, Mann, Camus and others.
Category 2.

EN - 226 CONTINENTAL NOVELISTS II
Prerequisite: Completion of freshman year.
An examination of later works by authors studied in Continental Novelists I.
Category 2.

EN - 228 MAJOR RUSSIAN AUTHORS
Prerequisite: Completion of freshman year.
The principal writings of the Russian masters of drama, fiction, and poetry: Tolstoy, Dostoyevsky, Chekhov Pushkin, and Turgenev.
Category 3.

EN - 230 MODERN DRAMA
Prerequisite: Completion of freshman year.
The theories and development of realism, naturalism, expressionism, folk drama; representative plays from Ibsen to O'Neill.
Category 1.

EN - 232 CONTEMPORARY DRAMA
Prerequisite: Completion of freshman year.
The dramatic works and aesthetics of Beckett, Pinter, and othr selected dramatists of the contemporary theatre.
Category 1.

EN - 234 MODERN POETRY
Prerequisite: EN 120 and EN 121.
Close analysis of the development of British and American poetry from the late nineteenth century to World War II.
Category 2.

EN - 236 CONTEMPORARY POETRY
Prerequisite: Completion of freshman year.
Concentrates on poets whose major work has occurred after World War II; special attention to authors presently writing and publishing.
Category 2.

EN - 238 CONTEMPORARY NOVEL

Prerequisite: Completion of freshman year.

American and English novels after World War II, with emphasis on living novelists.
Category 2.

EN - 242 THE AMERICAN NOVEL I

Prerequisite: Completion of freshman year.

The American novel from its origin to 1890; Brown, Cooper, Melville, Hawthorne, and others.
Category 2.

EN - 244 THE AMERICAN NOVEL II

Prerequisite: Completion of freshman year.

The American novelists from 1890 to World War II: Crane, Wolfe, Dreiser, Anderson, Hemingway, Steinbeck, and others.
Category 2.

EN - 251 ADVANCED EXPOSITORY WRITING

Prerequisite: EN - 102: English Composition II or CLEP exemption.

Instruction and practice in writing expository essays. Analysis of selected readings on a common theme or subject area.
Category 1.

EN - 252 TECHNICAL WRITING

Prerequisite: EN - 102.

Focuses on how to write and produce basic documents, from research and progress reports to brochures and manuals..
Category 1.

EN - 254 CRITICAL WRITING

Prerequisite: Consent of instructor.

Critical examination of English prose style; class reports; practice in the writing of analytical papers.
Category 2.

EN - 256 CREATIVE WRITING PROSE I

Prerequisite: Consent of instructor.

An opportunity to develop the student's writing ability and critical sense; work of students and professional authors will be analyzed.
Category 1.

EN - 258 CREATIVE WRITING: PROSE II

Prerequisite: Consent of instructor.

A continuation of EN 256; offers instruction in composing various types of prose fiction.
Category 2.

EN - 260 CREATIVE WRITING: POETRY I

Prerequisite: Consent of instructor.

Developing the student's skill in the creation of poetry; attention to contemporary trends in American poetry.
Category 1.

EN - 262 CREATIVE WRITING: POETRY II

Prerequisite: Consent of instructor.EN 260 not required.

Conversation with practicing poets; preparation of small booklet of poems.
Category 1.

EN - 264 JOURNALISM AND MASS COMMUNICATIONS

Prerequisite: Completion of freshman year.

Study of major forms of journalistic writing in relation to the background, issues, trends and impact of the American press.
Category 2.

EN - 266 JOURNALISM — PRACTICE AND TECHNIQUE

Prerequisite: Completion of freshman year.

Training in developing, reporting, writing and editing straight news, feature, profile and interpretive stories.
Category 1.

EN - 280 HISTORY OF LITERARY CRITICISM
Prerequisite: Completion of freshman year.
An historical introduction to speculation concerning the nature and function of literature; selections from Plato to Frye.
Category 2.

EN - 282 THE HISTORY OF THE ENGLISH LANGUAGE
Prerequisite: Completion of freshman year.
A study of the origins of the English language from Old English through Middle English to the present.
Category 2.

EN - 284 THE DEVELOPMENT AND CHARACTER OF THE ENGLISH LANGUAGE.
Prerequisite: EN - 102.
Provides a fundamental knowledge of the development and present character of the English language.
Category 2.

EN - 310 CHAUCER
Prerequisite: Completion of freshman year.
A study of the development of Chaucer's versatile art and writings as expressive of the later Middle Ages.
Category 1.

EN - 320 SHAKESPEARE I
Prerequisite: Completion of freshman year.
Major plays; required of all English majors.
Category 1.

EN - 322 SHAKESPEARE II
Prerequisite: Completion of freshman year.
A continuation of EN - 320 which will include the sonnets and less familiar plays.
Category 2.

EN - 324 ELIZABETHAN AND JACOBEAN DRAMA
Prerequisite: Completion of freshman year.
A critical analysis of plays by the contemporaries of Shakespeare: Kyd, Marlowe, Greene, Jonson, Ford, Webster, and others.
Category 3.

EN - 330 MILTON
Prerequisite: Completion of freshman year.
A study of Milton's work from early poems to *Paradise Lost, Paradise Regained,* and *Samson Agonistes;* includes some prose pamphlets.
Category 2.

EN - 332 THE ENGLISH THEATRE: 1660-1780
Prerequisite: Completion of freshman year.
A survey of plays of the Restoration period and the eighteenth century; genres of comedy and tragedy.
Category 3.

EN - 370 THE IRISH LITERARY REVIVAL
Prerequisite: Completion of freshman year.
The Irish literary renaissance; the origins of the movement: Joyce, Yeats, Synge, O'Casey, Lady Gregory, and others.
Category 2.

EN - 400 SEMINAR
Prerequisites: Completion of freshman year; consent of instructor.
Student presentations on individual figures and particular problems in literature.
Category 1.

EN - 425 INDEPENDENT STUDY IN ENGLISH

An opportunity for further study in a special field of interest under faculty supervision.
Category 1. 1-3 hours.

EN - 450 SPECIAL TOPICS IN LITERATURE

Prerequisite: Consent of instructor.

Specific content will vary in response to particular student and faculty interests.
Category 1.

EN - 475 INTERNSHIP IN ENGLISH

Prerequisite: Permission of department.

Provides majors the opportunity to gain practical experience in areas where they may apply acquired critical and writing skills.
Category 1. 3-6 hours.

Graduate Courses

EN8 - 110 APPROACHES TO THE LITERARY EXPERIENCE

An introduction to practical criticism which applies a broad spectrum of critical approaches to a selected group of literary examples.

EN8 - 112 HISTORY OF THE ENGLISH LANGUAGE

An examination of the phonology, syntax, and lexicon of English from its Proto-Indo-European origins to its contemporary dialects.

EN8 - 115 INTRODUCTION TO LITERARY RESEARCH

Examines basic and specialized library sources, representative types of interpretive writing illustrating methods of analysis applicable to works of literature.

EN 8 - 120 TECHNIQUES OF CREATIVE WRITING

An advanced writer's workshop for students who have taken previous creative writing courses or who have a substantial portfolio of fiction or poetry.

EN8 - 121 PRINCIPLES OF JOURNALISM

An examination of the underlying nature of journalistic communication and the development of a critical awareness of journalistic writing.

EN8 - 122 TECHNIQUES OF JOURNALISM

Practical instruction in the preparation of various types of news writing, development of journalistic style, reporting, interviewing, and editing.

EN8 - 250 LITERATURE AND SOCIAL CHANGE

A survey of literary works which examine social problems from the time of Swift to the present.

EN8 - 390 SPECIAL PROBLEMS IN LITERATURE

Designed to provide a flexible response to student and faculty concerns and interests not anticipated in the overall graduate program.

EN8 - 420 POE, HAWTHORNE, MELVILLE

Concentrates on the three great American novelists of the nineteenth century who followed the Romantic impulse into its dark underside.

EN8 - 520 EDGAR ALLAN POE: SELECTED WRITINGS

An examination of the poems, stories, and literary criticism of Edgar Allan Poe.

EN8 - 610 SEMINAR IN WILLIAM BUTLER YEATS

An appraisal of W.B. Yeat's major poems and plays, with some attention to his essays.

EN 8 - 760 THE WORLDS OF CHARLES DICKENS

Major aspects of the life and art of Dickens will be examined in a variety of contexts.

EN8 - 840 MODERN POETRY

A study of the major figures who shaped American and British poetry between 1910 and 1950.

EN9 - 111 HISTORY OF LITERARY CRITICISM

The development and implications of literary criticism from the time of Plato and Aristotle to the present.

EN9 - 113 LINGUISTICS

A study of the phonological, syntactical, and semantic dimensions of language as revealed by traditional, structural, and transformational-generative grammarians.

EN9 - 400 THE COLONIAL EXPERIENCE IN AMERICAN LITERATURE

A study of seventeenth-and eighteenth-century American literature from its Puritan origins to Benjamin Franklin.

EN9 - 430 THE ROMANTIC FLOWERING IN AMERICAN LITERATURE

The development of Romantic Idealism in the origins of American fiction and poetry.

EN9 - 450 REALISM AND NATURALISM

Realism as practiced by Twain and clarified by Howells, following the transition of Realism to Naturalism under Norris and Dreiser.

EN9 - 460 THE AMERICAN NOVEL OF THE TWENTIETH CENTURY

This course begins with the American naturalistic novel and ends with the latest fiction of the century.

EN9 - 510 MEDIEVAL LITERATURE

An examination of the most significant literary works of the Middle English Period (1100 -1500).

EN9 - 520 THE DRAMA TO 1642

English drama from its beginnings to 1642, including works by Marlowe, Jonson, Middleton, Webster, Turneur, and other contemporaries of Shakespeare.

EN9 - 530 THE RENAISSANCE

The intellectual influential literature of the sixteenth century: Pico Mirandola, Machiavelli, More, Erasmus, Wyatt, Surrey, Sidney, and Spenser.

EN9 - 560 SHAKESPEARE I

Comedies and history plays.

EN9 - 562 SHAKESPEARE II

An examination of the major tragedies.

EN9 - 570 THE SEVENTEENTH CENTURY

Donne, the Metaphysical poets; Jonson and the Cavalier poets, (excluding the drama and epic).

EN9 - 600 THE DEVELOPMENT OF THE NOVEL

A consideration of the development of the genre through the works of several of its major practitioners.

EN9 - 650 THE AGE OF REASON

Major literary works of England from the Restoration (l660) to the American Revolution.

EN9 - 710 THE NINETEENTH-CENTURY ENGLISH NOVEL

Readings will include selections from the novels of Austen,

Thackeray, Dickens, Eliot, Hardy, Conrad and others.

EN9 - 720 ROMANTIC POETRY I: BLAKE, WORDSWORTH, COLERIDGE

Readings in the major "first-generation" Romantics with close attention to the definition of Romanticism.

EN9 - 725 ROMANTIC POETRY II: SHELLEY, BYRON, KEATS

The second phase of the Romantic revolution is examined with attention to changes in the theory and practice of poetry.

EN9 - 770 VICTORIAN POETRY

Major poets of the period: Tennyson, Browning and Arnold through the works and years.

EN9 - 820 MODERN BRITISH LITERATURE

The major prose fiction of the period: Joyce, Lawrence, and others. Some attention to related contributions in the other genres.

EN9 - 870 MODERN DRAMA

A survey of British, American, Irish and continental drama from Ibsen through O'Neill.

EN9 -900 SEMINAR

Provides the opportunity for the student to explore the works of one or two major authors in depth.

FOREIGN LANGUAGES

Undergraduate Courses

FL ARB - 100 ELEMENTARY ARABIC I

Introduction to reading and writing modern, standard and classical Arabic.

FL ARB - 101 ELEMENTARY ARABIC II

Prerequisite: FL/ARB - 100, or equivalent.

Continuation of Elementary Arabic 1.
Category 1.

FL - 201 INTRODUCTION TO LINGUISTICS

Traditional and contemporary theories of phonetics, grammar, semantics, semiotics, psychology and sociology of language. Illustrations mostly from English.
Category 1.

FRENCH

FR - 101 INTRODUCTION TO FRENCH LANGUAGE AND CULTURE I

Fundamentals of spoken and written French with a comparative study of French and Anglo-American civilizations.
Category 1.

FR - 102 INTRODUCTION TO FRENCH LANGUAGE AND CULTURE II

Continuation of FR - 101.
Category 1.

FR - 103 BEGINNING FRENCH I

Fundamentals of pronunciation, patterns of speech, basic structures. Uses oral-aural methods. Develops reading and writing skills.
Category 1.

FR - 104 BEGINNING FRENCHII

Continuation of FR - 103
Category 1.

FR - 210 INTERMEDIATE FRENCH I

Prerequisite: FR - 104, or equivalent.

Review of grammar, verb structure, written and oral composi-

tion, selected readings and comprehension exercises.
Category 1.

FR - 211 INTERMEDIATE FRENCH II
Prerequisite: FR - 210 or equivalent.
Continuation of FR - 210.
Category 1.

FR - 214 INTERMEDIATE FRENCH I: READING AND TRANSLATION
Prerequisite: FR - 104 or equivalent.
Continuation of FR - 210.
Category 2.

FR - 215 INTERMEDIATE FRENCH II: READING AND TRANSLATION
Prerequisite: FR - 214 or equivalent.
Continuation of FR - 214.
Category 2.

FR - 216 INTERMEDIATE FRENCH I: CONVERSATION
Prerequisite: FR - 104 or equivalent.
Conversational patterns, idioms, dialogues, special vocabularies for travel and occupations.
Category 1.

FR - 217 INTERMEDIATE FRENCH II: CONVERSATION
Prerequisite: FR - 216 or equivalent.
Continuation of FR - 216.
Category 1.

FR - 321 ADVANCED FRENCH
Prerequisites: 2 FR - 200 - level courses.
Intensive review of grammar, practice in translation and composition. Conducted in French.
Category 3.

FR - 322 INTRODUCTION TO FRENCH PHONETICS
Prerequisites: 2 FR - 200 - level courses.
Theory and practice in French sound system: clinical approach.
Category 3.

FR - 323 FRENCH CONVERSATION AND COMPOSITION
Prerequisites: 2 FR - 200 - level courses.
Pronunciation and comprehension exercises, discussions, practice in paragraph, essay and letter writing.
Category 3.

FR - 324 ADVANCED FRENCH CONVERSATION
Prerequisite: FR - 321 or 323.
Development of fluency and accuracy, free discussions, prepared oral presentations, practical exercises in oral expression.
Category 3.

FR - 325 ADVANCED FRENCH COMPOSITION
Prerequisite: FR - 321 or 323.
Fine points of French grammar, essays, reports, practical correspondence: English to French translation.
Category 3.

FR - 331 GENERAL FRENCH CIVILIZATION
Prerequisites: Two FR - 200 -level courses.
Significant aspects of French history, geography, cultural achievements to World War I.
Category 3.

FR - 332 CONTEMPORARY FRENCH CIVILIZATION
Prerequisites: Two FR - 200 -level courses.
French arts, politics, society since World War I.
Category 3.

FR - 333 THE FRENCH IN AMERICA
Prerequisites: Two FR - 200 - level courses.

A broad historical - cultural survey of the French presence in America from the explorations of Champlain and Cartier to modern times.
Category 3.

FR - 341 INTRODUCTION TO FRENCH LITERATURE
Prerequisites: Two FR - 200 - level courses.
Major periods and genres of French literature; recommended first literature course for majors and minors.
Category 3.

FR - 342 MEDIEVAL AND RENAISSANCE FRENCH LITERATURE
Prerequisites: Two FR - 200 - level courses.
Selections from the epic, theater, lyric poetry and the major prose writers.
Category 3.

FR - 343 FRENCH LITERATURE OF THE SEVENTEENTH CENTURY
Prerequisites: Two FR - 200 - level courses.
Major authors of the classical period with emphasis on Corneille, Moliere and Racine.
Category 3.

FR - 344 EIGHTEENTH CENTURY FRENCH LITERATURE
Prerequisites: Two FR - 200 - level courses.
Major works of Montesquieu, Voltaire, Diderot, Rousseau and a representative play and novel.
Category 3.

FR - 345 NINETEENTH CENTURY FRENCH LITERATURE
Prerequisites: Two FR - 200 - level courses.
Major authors of the romantic, realist and symbolist movements.
Category 3.

FR - 346 TWENTIETH CENTURY FRENCH LITERATURE
Prerequisites: Two FR - 200 - level courses.
Major novelists, dramatists and poets from the turn of the century to the present.
Category 3.

FR - 401 SEMINAR IN FRENCH STUDIES
Prerequisite: For advanced students.
Special topics in French language, literature or civilization.
Category 3.

FR - 402 INDEPENDENT STUDY IN FRENCH
Prerequisite: See description.
Study of a special topic. Both content and eligibility subject to departmental guidelines and approval.
Category 3.

GERMAN

GN - 101 BEGINNING GERMAN I
Fundamentals of structure, speech patterns, pronunciation, reading and writing.
Category 3.

GN - 102 BEGINNING GERMAN II
Prerequisite: GN - 101.
Continuation of GN - 101.
Category 3.

GN - 210 INTERMEDIATE GERMAN I
Prerequisite: GN - 102 or equivalent.
Review of fundamentals; presentation of more complex stylistic features of German; selected introductory readings as an introduction to culture, conversation, composition.
Category 3.

GN - 211 INTERMEDIATE GERMAN II
Prerequisite: GN - 210 or equivalent.
Continuation of GN - 210.
Category 3.

SPANISH

SP - 101 FUNDAMENTAL SPANISH I
Basic oral and written proficiency for daily communication; may be taken as a self-contained unit or as a basis for further development. Audio-visual method.
Category 1.

SP - 102 FUNDAMENTAL SPANISH II
Prerequisite: SP - 101 or equivalent.
Continuation of SP - 101.
Category 1.

SP - 210 INTERMEDIATE SPANISH I: CONVERSATION
Prerequisite: SP - 102 or equivalent.
Conversational patterns, idioms, dialogues; special vocabularies for travel and occupations.
Category 1.

SP - 211 INTERMEDIATE SPANISH II: CONVERSATION
Prerequisite: SP - 210 or equivalent.
Continuation of SP - 210.
Category 1.

SP - 212 INTERMEDIATE SPANISH I
Prerequisite: SP - 102 or equivalent.
Recommended for majors. Reading, translation and intensive review of grammar and structure of language; introduction to Spanish literature.
Category 1.

SP - 213 INTERMEDIATE SPANISH II
Prerequisites: SP - 210 and 212 or equivalent.
Continuation of SP - 212.
Category 1.

SP - 321 ADVANCED SPANISH COMPOSITION I
Prerequisites: Two SP - 200 - level courses.
Facility in prose writing: study of style of selected authors; variety of expression through word discrimination.
Category 3.

SP - 322 ADVANCED SPANISH COMPOSITION II
Prerequisite: SP - 321 or equivalent.
Continuation of SP - 321.
Category 3.

SP - 323 SPANISH CONVERSATION I
Prerequisites: Two SP - 200 - level courses.
Intensive conversational practice for improving intonation, pronunciation, fluency; review of language usage: introduction to phonetics.
Category 3.

SP - 324 SPANISH CONVERSATION II
Prerequisite: SP - 323 or equivalent.
Continuation of SP - 323.
Category 3.

SP - 331 SPANISH CIVILIZATION
Prerequisites: Two SP - 200 - level courses.
Spanish social, cultural, political life.
Category 3.

SP - 332 THE HISPANIC WORLD TODAY I
Prerequisites: Two SP - 200 - level courses.
Social, economic and political institutions; collective assumptions, value systems and customs. Conducted in Spanish.
Category 3.

SP - 333 THE HISPANIC WORLD TODAY II
Prerequisites:Two SP - 200- level courses.
Continuation of SP - 332.
Category 3.

SP - 341 READINGS IN SPANISH LITERATURE
Prerequisites: Two SP - 200 - level courses.
Selected masterpieces from Middle Ages to present; social, cultural, stylistic features of different periods. Recommended as a first course in Spanish literature.
Category 3.

SP - 342 MASTERPIECES OF SPANISH LITERATURE OF THE MIDDLE AGES
Prerequisites: Two SP - 200 - level courses.
Selections from the epic, theater, lyric poetry and major prose writers.
Category 3.

SP - 343 LITERATURE OF THE SPANISH RENAISSANCE
Prerequisites: Two SP - 200 - level courses.
Works of the idealistic and realistic literary currents in narrative prose: caballaresque, pastoral, picaresque novels.
Category 3.

SP - 344 CERVANTES
Prerequisites: Two SP - 200 - level courses.
The *Quijote,* selected *Novelas ejemplares.*
Category 2.

SP - 345 SEVENTEENTH—CENTURY DRAMA
Prerequisites: Two SP - 200 - level courses.
Lope de Vega, Tirso de Molina, Calderon and other major dramatists of the age. History of the 17th-century Spanish drama and introduction to Spanish versification.
Category 2.

SP - 346 NINETEENTH—CENTURY SPANISH LITERATURE: ROMANTICISM
Prerequisites: Two SP - 200 - level courses.
Poetry, essay, drama and novel of the Peninsular Romantic period.
Category 3.

SP - 347 NINETEENTH—CENTURY SPANISH LITERATURE: THE NOVEL
Prerequisites: Two SP - 200 - level courses.
Development of the nineteenth century novel; selected works of Valera, Galdos and others.
Category 3.

SP - 348 CONTEMPORARY SPANISH LITERATURE
Prerequisites: Two SP - 200 - level courses.
Literary works from the generation of 1898 to the present.
Category 2.

SP - 349 SPANISH—AMERICAN LITERATURE
Prerequisites: Two SP - 200 - level courses.
Representative works from South and Central American authors from the Colonial Period to the present.
Category 2.

SP - 401 ADVANCED STUDY: SPECIAL TOPICS
Prerequisite: For advanced students.
Special topics in language, literature, civilization or field work of mutual interest to student and instructor.
Category 3.

SP - 402 INDEPENDENT STUDY IN SPANISH

Prerequisite: See description.

Study of a special topic. Both content and eligibility are subject to departmental guidelines, approval.

Category 1.

Graduate Courses

SP8 - 100 FUNDAMENTAL SPANISH I

Basic oral, written proficiency for daily communication; taken as a self-contained unit or as a basis for further language development.

SP8 - 110 FUNDAMENTAL SPANISH II

Prerequisite: SP8 - 100 or equivalent.

Continuation of SP8 - 100.

SP8 - 120 SPANISH FOR COMMUNITY PERSONNEL I

Designed for municipal and community personnel who, in their daily work, must communicate with Spanish-speaking people.

SP8 - 130 SPANISH FOR COMMUNITY PERSONNEL II

Prerequisite: SP8 - 120 or equivalent.

Continuation of SP8 - 120.

SP8 - 200 INTERMEDIATE SPANISH I

Prerequisite:SP8 - 110 or equivalent.

Offered to those who wish to establish better communication and understanding with Spanish-speaking people.

SP8 - 210 INTERMEDIATE SPANISH II

Prerequisite:SP8 - 200 or equivalent.

Continuation of SP8 - 200.

SP8 - 310 CONVERSATIONAL SPANISH WORKSHOP

Prerequisite: SP8 - 210 or equivalent.

Intensive oral communication practice conducted between intermediate and advanced levels of proficiency. Selective review of grammar.

SP8 - 311 ADVANCED SPANISH CONVERSATION I

Prerequisite: SP8 - 210 or equivalent.

Advanced conversational practice to improve fluency and naturalness in the use of everyday language and the development of vocabulary.

SP8 - 312 ADVANCED SPANISH CONVERSATION II

Prerequisite:SP8 - 311 or equivalent

Continuation of SP8 - 311.

SP8 - 313 SPANISH COMPOSITION AND COMMUNICATION I

Prerequisite: SP8 - 210 or equivalent.

Facility in prose writing; mastery of complex grammatical problems; stylistic analysis of selected exercises in literary extracts.

SP8 - 314 SPANISH COMPOSITION AND COMMUNICATION II

Prerequisite: SP8 - 313 or equivalent.

Continuation of SP8 - 230.

SP8 - 320 SPANISH SUMMER INSTITUTE

Prerequisite: SP8 - 110 or equivalent.

Established to improve language abilities in combination with the study of Spanish culture. Formal classes are supplemented with activities.

SP8 - 321 THE HISPANIC WORLD TODAY

Prerequisite: SP8 - 312 or equivalent.

Social, economic, and political

institutions of Latin America; collective assumptions, value systems and customs. Classes conducted in Spanish.

SP8 - 322 CONTEMPORARY SPAIN

Prerequisite: SP8 - 312 or equivalent.

The first Spanish country to cross the line between developing and developed countries, with concomitant cultural changes. Classes conducted in Spanish.

SP8 - 323 HISTORY AND CULTURE OF PUERTO RICO

Prerequisite: SP8 - 312.

An in-depth study of the country as in SP8 - 321.

SP8 - 324 THE LATIN AMERICANS IN USA

Prerequisite: SP8 - 312.

Their origins, distribution, sociocultural organizations and attitudes. Special attention to the Spanish-speaking community of the area. Classes conducted in Spanish.

SP8 - 325 TRAVEL STUDY COURSE

Prerequisite: SP8 - 312.

Trip will be preceded by a seminar. Classes conducted in Spanish.

SP9 - 326 SEMINARIO INTERCULTURAL DE ESTUDIOS HISPANO-AMERICANOS

Prerequisite: SP8 - 312 or equivalent.

A contrastive study of Hispanic and American culture and personality and survey of different methodologies to teach culture. Classes conducted in Spanish.

SP9 - 330 SPANISH NOVEL OF THE NINETEENTH AND TWENTIETH CENTURIES

Prerequisite: SP8 - 312 or equivalent.

A study of the most representative novelists of the nineteenth and twentiethcenturies in Spain. Classes conducted in Spanish.

SP9 - 331 LATIN AMERICAN NOVEL OF 19th AND 20th CENTURIES

Prerequisite: SP8 - 312 or equivalent.

A study of major figures in Latin American narrative. Classes conducted in Spanish.

SP9 - 332 HISPANIC THEATER

Prerequisite: SP8 - 312 or equivalent.

Main trends in peninsular and Latin American drama. Classes conducted in Spanish.

SP9 - 333 CONTEMPORARY SPANISH NOVEL

Prerequisite: SP8 - 312 or equivalent.

Study of several important novelists of post Civil War Spain; their perception of present-day Spanish society. Classes conducted in Spanish.

SP9 - 334 CONTEMPORARY LATIN AMERICAN NOVEL

Prerequisite: SP8 - 312 or equivalent.

A selective survey of the Latin American novel since World War II. Classes conducted in Spanish.

SP9 - 335 LITERATURE OF SPANISH GOLDEN AGE

Prerequisite: SP8 - 312 or equivalent.

Works representative of the ideological and aesthetic currents of the Spanish Golden Age. Classes conducted in Spanish.

SP9 - 400 INDEPENDENT STUDY IN SPANISH

Prerequisite: Approval of the coordinator.

GEOGRAPHY

Undergraduate Courses

GE - 101 PHYSICAL GEOGRAPHY: THE PHYSICAL ENVIRONMENT

Geographic principles of location; characteristics of landforms, soil, climate, minerals, water, flora and fauna.
Category 1.

GE - 102 CULTURAL GEOGRAPHY: THE CULTURAL ENVIRONMENT

Man-related relationships settlement patterns, problems related to urbanization pollution, conservation and patterns of change.
Category 1.

GE - 110 WORLD REGIONAL GEOGRAPHY I

This survey examines characteristics of land and peoples of Europe, the Middle-East and the USSR with emphasis on landscapes and cultures.
Category 3.

GE - 111 WORLD REGIONAL GEOGRAPHY II

Analysis of the physical, cultural and economic regions of the Orient, Asia, Africa, Australia and the Americas.
Category 1.

GE - 120 INTRODUCTION TO GEOLOGY

Introduction to geological science; rocks and minerals, internal forces and crustal structures, effects of rives, glaciers, and other surface processes.
Category 1.

GE - 121 PHYSICAL GEOLOGY LAB

Prerequisite: GE - 120 (may be taken concurrently).

Involves exercises in rock and mineral characteristics, topographic and geologic map interpretation, air photo analysis, and local field study.
Category 1.

GE - 205 METEOROLOGY

Weather elements, frontal storms, air mass characteristics, winds, temperature, precipitation, and pressure patterns throughout the world; weather instruments; forecasting.
Category 1.

GE - 210 GEOGRAPHY OF NORTH AMERICA

Manufacturing, agriculture and trade in the various regions of the continent. Land utilization as affected by the physical environment.
Category 1.

GE - 220 EARTH HISTORY

Prerequisite: GE - 120.

Historical evolution of the earth, its surface features and life forms through geologic time. Emphasis on the North American continent.
Category 1.

GE - 225 OCEANOGRAPHY

The principles of physical, chemical, biological, and geological oceanography.
Category 1.

GE - 230 GEOGRAPHY OF EUROPE

European geography, people, culture, economics and problems

facing the individual countries.
Category 1.

GE - 250 HYDROLOGY

Physical, economic, political,, and social problems in water resource planning are considered in a simulation context.
Category 1.

GE - 260 GEOGRAPHY OF SOUTH AMERICA

Physical, economic, social and cultural analysis of the individual countries; historical background to present-day development.
Category 2.

GE - 270 GEOGRAPHY OF MIDDLE AMERICA

Prerequisite: GE - 101, GE - 102.

Present growth and trends in Middle America and the Caribbean realm as related to the landscape and culture of the people.
Category 2.

GE - 280 GEOGRAPHY OF MANUFACTURING

A systematic study of the spatial distribution of manufacturing activities; analysis of their locations employing industrial location theory.
Category 1.

GE - 285 ECONOMIC GEOGRAPHY

Geographic factors contributing to the localization of economic activities are analyzed. Distribution, production, and trade are considered.
Category 2.

GE - 290 CONSERVATION AND NATURAL RESOURCE MANAGEMENT

Problems in resource management are analyzed from a physical, social, economic and political perspective. Theory and applied examples are considered.
Category 1.

GE - 300 PROBLEMS IN ENERGY RESOURCES

Prerequisite: GE - 101.

Contemporary problems of energy resources; emphasis on supply, demand, and availability of alternative energy resources.
Category 1.

GE - 310 GEOMORPHOLOGY

Prerequisites: GE - 101 or GE - 120.

A study of landscapes and the natural forces that shape them. Influences of man's activities and role of climate stressed.
Category 1.

GE 311 REGIONAL GEOMORPHOLOGY OF THE UNITED STATES

Prerequisite: GE - 120.

Study of selected regions of our country with respect to underlying geology and resulting landscape features. Considerable map study incuded.
Category 2.

GE - 315 COMPUTER-GRAPHICS

Prerequisites: BASIC or FORTARN

Production of graphs and maps using line printer, Tektronix, and Apple equipment.
Category 1.

GE - 316 METEOROLOGY

Weather elements, frontal storms, air mass characteristics, winds, temperature, precipitation, and pressure patterns throughout the world; weather instruments; forecasting.
Category 1.

GE - 320 CLIMATOLOGY

Prerequisite: GE - 101.

Characteristics of the atmosphere; climates of the continents and classification of the world's climates.
Category 1.

GE - 325 GLACIAL GEOLOGY

Prerequisite: GE - 120.

Glaciers and their dynamics; investigation of the Quaternary Ice Age and its profound effects on world scenery.
Category 2.

GE - 330 GEOGRAPHY OF ASIA
Prerequisite: Permission of instructor.
Physical and cultural environmental analysis; rapid changes, developments of recent origin, and problems facing the individual countries.
Category 1.

GE - 340 URBAN GEOGRAPHY: THE URBAN ENVIRONMENT
Prerequisite: GE - 102.
World urbanization, location and central place concepts, economy of cities, land use patterns, urban physical and societal environmental problems.
Category 1.

GE - 345 GEOGRAPHY OF AFRICA
Prerequisite: Permission of Instructor.
Africa divides into North Africa, Saharan Africa and Southern Africa. This course studies lands, peoples, cultures, economics, political and future problems.
Category 1.

GE - 350 INTRODUCTION TO URBAN REGIONAL PLANNING
Prerequisite: GE - 102.
Understanding of purpose, function, tools and methodology of urban and regional planning; focus on land use planning, land use controls and model plans.
Category 2.

GE - 351 INTRODUCTION TO CARTOGRAPHY
Prerequisite: GE - 101.
Theory and construction of maps, charts, and diagrams.
Category 1.

GE - 352 CARTOGRAPHY AND GEOGRAPHIC TECHNIQUES
Prerequisite: GE - 351.
Continuation of GE - 351 with an emphasis upon statistical analysis.
Category 1.

GE - 355 LAND USE PLANNING WORKSHOP
Prerequisite: permission of instructor.
Workshop: students undertake a land-use planning project for a local community utilizing an ecological approach and environmental planning methodology.
Category 1.

GE - 360 THE MIDDLE EAST: ITS CHANGING ENVIRONMENTS
Prerequisite: GE - 102.
The Middle East: geography, society, economics and political structure.
Category 3.

GE - 370 POLITCAL GEOGRAPHY
Prerequisites: GE - 101, GE - 102.
Space structures, growth, problems of a nation-state; modern world political problems.
Category 3.

GE - 380 COMPUTER APPLICATION FOR THE SOCIAL SCIENCES
Prerequisites: GE - 352 or basic course in statistics.
Use of the SPSS system of computer programs for use in the analysis of social science data.
Category 1.

GE - 390 GEOGRAPHY OF THE USSR
Prerequisite: GE - 101.
A study of the physical environments, regional economies, populations and cultural problems of a giant in a tri-partite

world power play.
Category 1.

GE - 450 READINGS AND DIRECTED RESEARCH

Prerequisites: GE - 101, GE - 102, GE - 210, GE - 351, GE - 352 and consent of the department.

Directed study on selected topics; open to senior majors.
Category 1.

GE - 460 GEOGRAPHY INTERNSHIP

Prerequisites: All department requirement for major fulfilled, and approval of the department.

Students assigned to various government and private agencies, and work under joint supervision of agency and faculty.
Category 3. 1-6 hours.

GE - 470 SELECTED TOPICS IN GEOGRAPHY

Prerequisite: Permission of instructor.

Topic or subject to be announced in advance; topic to be relevant to student needs and interest and availability of professor.
Category 2.

Graduate Courses

GE8 -101 THE PHYSICAL ENVIRONMENT

Interactions between man and his environment. Man's use and misuse of the earth's resources, and environmental controls will be stressed.

GE8 - 102 GEOLOGIC INFLUENCES IN THE NEW ENGLAND LANDSCAPE

Analysis of the geological backgrounds of New England's distinctive scenery. Includes study of bedrock base, glacial features, coastlinne and mountains.

GE8 - 106 CENTRAL MASS. GEOLOGY WORKSHOP

Chiefly a field investigation of nearby bedrock and landscape features. Survey of maps, literature, and other resources on local geology.

GE8 - 222 MAN'S ENVIRONMENT:THE EARTH'S CRUST

Surveys the new unifying model of evolution of the earth's crust embodied in continental drift, sea-floor spreading, and plate tectonics.

GE8 -260 THE GREAT ICE AGE

Explores the many influences of the Quaternary Ice Age on our natural environment: landforms, soils, vegetation, animals, and early man.

GE8 - 290 ECOLOGY AND CONSERVATION IN AMERICAN SOCIETY

The fundamental ideas in ecology and conservation in the United States.

GE8 - 315 THE DRAMA OF WEATHER

Weather elements, frontal storms, air mass characteristics, winds, temperature, precipitation, and pressure patterns throughout the world.

GE8 - 351 PRINCIPLES OF CARTOGRAPHY

The study of the principles of cartography.

GE8 - 352 QUANTITATIVE TECHNIQUES IN GEOLOGY

The study of the quantitative techniques of Geology.

GE8 - 400 GEOGRAPHY OF WINE

The cultivation of grapes and their manufacture into wine. Regional stress; Western Europe and the United States.

GE8 - 410 CONTEMPORARY ENVIRONMENTAL PROBLEMS

A study of contemporary environmental problems.

GE8 - 415 COMPUTER-GRAPHICS

Prerequisites: BASIC of FORTRAN.

Production of graphs and maps using line printer, Tektronix, and Apple Equipment.

GE8 - 420 ECONOMIC GEOGRAPHY

Geographic factors contributing to the localization of economic activities; distribution, production and trade.

GE8 - 430 GEOGRAPHY OF URBAN ENVIRONMENT

World urbanization, location and central place concepts, economy of cities, land-use patterns, urban physical and societal environmental problems.

GE8 - 441 LAND-USE PLANNING WORKSHOP

Workshop in land-use planning.

GE8 - 455 INDUSTRIAL GEOGRAPHY

Industrial concentrations and patterns on the earth's surface.

GE8 - 460 THE GREAT ICE AGE

A study of the Great Ice Age.

HEALTH STUDIES

Undergraduate Courses

HE - 100 PERSONAL HEALTH

Physical, emotion and spiritual aspects of one's well-being and how to maintain and increase the quality of self-life style.
Category 1.

HE - 110 DRUGS AND SOCIETY

Drug use and abuse, and implications for personal, family, and societal choice.
Category 1.

HE - 120 HEALTH AND NUTRITION

Nutritional needs, weight control, healthy diets, myths, and nutritional aids to better health.
Category I.

HE - 130 HUMAN SEXUAL AWARENESS

The processing of feelings of self as a sexual person and applications to individual lifestyles.
Category I.

HE PE - 140 INTRODUCTION TO CREATIVE ARTS THERAPIES

Experimential,didactic introduction to the separate arts therapies: movement, art, music and language arts emphasizing the creative process.
Category 3.

HE - 200 CONSUMER HEALTH

Prerequisite: HE 100.

Current information and guidelines to reliable sources necessary to develop intelligent consumers capable of wisely selecting health products and services.
Category 1.

HE - 210 FEMINIST HEALTH

An introduction to the connection between the status of women in society and their health.
Category 2.

HE - 220 MENTAL HEALTH EDUCATION

Prerequisite: HE - 100.

Examination of mental health as a variable, its creation and the obstacles to good mental health; development of positive self-

concept.
Category 3.

HE - 230 HUMAN SEXUALITY AND SEX EDUCATION
Prerequisites: HE - 100, HE - 130.
Focus on the need for and understanding of sex education, along with the process of implementing sexuality education, with emphasis upon teacher preparation.
Category 3.

HE/ PE 240 FITNESS FOR LIFE
Prerequisite: HE - 100.
Knowledge of health-related fitness components and their effect on total wellness; emphasis on developing personalized fitness program, namely cardiovascular endurance.
Category 3.

HE/ PE - 250 INDIVIDUALIZED STRESS MANAGEMENT & RELAXATION
Prerequisite: HE - 100.
Knowledge of the causes, symptoms and related disorders of stress; emphasis on techniques of stress reduction through meditation, exercise, etc.
Category 3.

HE/ PE - 260 FIRST AID: ADVANCED THEORY AND SKILL
Common emergencies, cardiopulmonary resuscitation, auto extraction and emergency childbirth. Opportunity for instructor rating.
Category 3.

HE - 300 VALUES CLARIFICATION
Prerequisite: HE - 100.
Examination of values which guide.
Category 3.

HE - 310 GROUP PROCESSING
Prerequisite: HE - 100.
Consideration of the process of dynamics forming the emotional, relational, and other components of health-producing group behavior.
Category 2.

HE - 320 AGING & DEATH
Prerequisite: HE - 100.
Health imiplications revealed as psychological and social surrounding the phenomena of aging and death.
Category 2.

HE - 340 HEALTH COUNSELING
Prerequisites: HE - 100, HE - 130, HE - 310.
A study of the counseling implications involved in health. Awareness of the counseling process and referral.
Category 2.

HE - 350 COMMUNITY HEALTH EDUCATION
Prerequisite: Advanced standing.
Opportunity for exploration of ongoing community health education programs, and their impact upon that community.
Category 3.

HE - 360 STRENGTH TRAINING
Prerequisite: Advanced standing.
Identification of strengths and weaknesses in teaching.
Category 3.

HE - 370 CRITICAL ISSUES IN HEALTH
Prerequisite: Advanced standing.
Issues in health.
Category 3.

HE - 380 TEACHING METHODS AND SKILLS IN HEALTH
Prerequisite: Advanced standing.
Focus on the role and responsibility of the classroom teacher

as a major force in the creative teaching-learning environment.
Category 3.

HE - 390 ENVIRONMENTAL HEALTH
Prerequisite: HE - 100.
Nature and effects of health hazards including radiation, noise, pollutants (air, water), food, housing, accidents, etc.
Category 3.

HE - 400 DEPARTMENTAL WORKSHOP
Prerequisite:Permission of instructor.
An eclectic course that will bring to the department the most important issues that relate to health and health care.
Category 2.

HE - 440 PRACTICUM IN HEALTH
Prerequisite: Advanced standing.
A field experience option for Health Studies students.
Category 1.

HE - 450 INDEPENDENT STUDY IN HEALTH
Prerequisite: Advanced standing.
Creative, independent learning experiences designed and initiated by the student.
Category 1. 1-3 hours.

Graduate Courses

HE8 - 005 WOMEN AND THEIR SEXUALITY
Studied examination of the physical and emotional aspects of womanhood.

HE8 - 100 PHILOSOPHY OF HEALTH
Emphasis on the development of a personal philosophy of health within the contexts of philosophy and health.

HE8 -110 RESEARCH IN FEMINIST HEALTH
Various women's health issues will be researched relating to the effects of sexism on women's lives, past, present and future.

HE/ PE8 - 115 INTRODUCTION TO CREATIVE ARTS THERAPIES
An experiential and didatic introduction to the separate art therapies: movement, art, music, and language arts emphasizing the creative process.

HE8 - 120 NUTRITION AND HEALTH
Fundamental principles of human nutrition with emphasis on physiological and chemical bases for nutrient needs.

HE8 - 125 DRUG AWARENESS
Feelings and values, and how these influence choices and decisions about drug use and abuse.

HE8 - 200 PERSONAL HEALTH
A conceptual approach to the physical, mental, social and spiritual dimensions underlying one's health and wellness.

HE8 - 210 CONSUMER HEALTH
The consumer of health-care products and services, and how to make wise choices and decisions.

HE8 - 250 HUMAN SEXUAL AWARENESS
Emphasis on facing and making choices about sex and sexuality through self-understanding and acceptance.

HE8 - 260 HUMAN SEXUALITY AND SEX EDUCATION
In-depth understanding of human sexuality, and the process involved for effective teaching of it.

HE8 - 275 HEALTH COUNSELING

Development of an awareness of the significance of health counseling. Skills and knowledge useful in relating to people in counseling.

HE8 - 330 VALUES CLARIFICATION IN HEALTH EDUCATION

Presentation of a variety of activities, vignettes, and provocative questions and situations to help students think and learn about values.

HE8 - 350 WORKING WITH GROUPS

Critical examination of group behavior while developing leadership and facilitative competencies in group functioning for therapeutic growth and total health.

HE8 - 400 MENTAL HEALTH EDUCATION

Investigation of mental health dynamics in the classroom and development of demonstrable techniques and methods to achieve positive individual and group health.

HE8 - 415 AGING AND DEATH EDUCATION

The common human experiences of aging and death; understanding and developing skills related to grief counseling and crisis intervention.

HE9 - 100 HEALTH COORDINATOR

Investigation of the skills necessary in developing, implementing, and coordinating a school health education program.

HE9 - 175 CREATIVE TEACHING IN HEALTH

Emphasis placed on creative aspects of teaching with a focus on: values education; transpersonal education; affective education; etc.

HE9 - 200 STRENGTH TRAINING IN HEALTH

Workshop: to help participants learn to cope constructively with stressful situations commonly experienced in helping relationships.

HE9 - 300 DRUGS, ALCOHOL AND TOBACCO

The phamacology of various drugs and their physiological effects.

HE9 - 500 INDEPENDENT STUDY IN HEALTH

Open to graduate students who wish to develop an independent research project.

HISTORY AND POLITICAL SCIENCE

Undergraduate Courses

HI - 101 WESTERN CIVILIZATION I

From the ancient civilizations to 1648. A study of Western development and tradition in that time period.
Category 1.

HI - 102 WESTERN CIVILIZATION II

From 1648 to recent times. A study of Western development and tradition in that time period.
Category 1.

HI - 111 U.S. HISTORY I

From colonization through the Civil War era. A study of politics, society, economy, diplomacy, and culture in that period.
Category 1.

HI - 112 U.S. HISTORY II

From the Civil War era to recent times. A study of politics, society, economy, diplomacy, and culture in that period.
Category 1.

HI - 200 COLONIAL HISTORY I

Prerequisites: HI - 111, HI - 112.

European background and reasons for American colonization, intercolonial rivalries, formation of the 17th century English colonies, British colonial policy, to 1689.
Category 2.

HI - 201 COLONIAL HISTORY II

Prerequisites: HI - 111, HI - 112.

Establishment of Georgia, French and Indian Wars, 18th century colonial civilization, causes of the American Revolution, the Revolution, to 1783.
Category 2.

HI - 205 AMERICAN INDIAN: PAST AND PRESENT

The American Indian in history: the encounter between Indian and European civilizations; and the relationship of Indian culture to Indian history.
Category 2.

HI - 206 A HISTORY OF WARFARE

An examination of the role of war in conflict resolution, great battles which changed history, and the impact of technology on war.
Category 2.

HI - 207 AMERICAN WEST: MYTH AND REALITY

T he historic development of the West, its impact on the American character, and a study of how myths became accepted "fact".
Category 2.

HI - 208 AMERICAN IMMIGRANT HISTORY

Survey of immigration. Topics such as: old-world background, impact on U.S., nativism, cultural pluralism, religion, mobility, family and politics.
Category 1.

HI - 209 AFRO-AMERICAN HISTORY

Prerequisites: HI - 111, HI - 112.

The role of blacks in American society from the seventeenth century to the present, emphasizing the institution of slavery.
Category 3.

HI - 210 PSYCHOLOGICAL FOUNDATIONS OF CURRENT HISTORY

An attempt to ascertain certain climates of opinion within which far-reaching decisions were both made and responded to.
Category 1.

HI - 211/ PO - 211 HISTORY OF U.S. FOREIGN POLICY I

Colonial origins to the era of the Spanish-American War. The sources and development of U.S. foreign policy in that period.
Category 1.

HI - 212/ PO - 212 HISTORY OF U.S. FOREIGN POLICY II

From 1900 to recent times: U.S. foreign policy traditions and the challenges of great power status.
Category 1.

HI - 215 AMERICAN INTELLECTUAL HISTORY

Prerequisite: American Literature.

Puritanism, the enlightenment, romanticism, Darwinism,

pragmatism, naturalism, fundamentalism, the liberal-progressive ethic, the new left and neo-conservatism.
Category 3.

HI - 216 ECONOMIC HISTORY OF THE U.S.

An introduction to United States economic development; particular attention will be paid to industrialization and the labor force.
Category 2.

HI - 217 U.S. SOCIAL HISTORY

Survey of social and cultural history. Topics such as: family, religion, education, popular literature, architecture, transportation and reform.
Category 2.

HI - 218/ PO - 218 U.S. CONSTITUTIONAL HISTORY I

The development of constitutional history as seen in decisions of the U.S. Supreme Court and their effects from 1789 to 1921.
Category 1.

HI - 219/ PO - 219 U.S. CONSTITUTIONAL HISTORY II

Supreme Court decision-making from 1921: federal-state relations, civil liberties, civil rights, loyalty program, labor, rights of defendants.
Category 1.

HI - 223 HISTORY OF MODERN FRANCE

Prerequisites:Completion of freshman year.

Domestic and foreign problems of nineteenth and twentieth century France.
Category 2.

HI - 224 ENGLISH HISTORY I

Prerequisites: Completion of freshman year.

English history, from Roman Britain to 1688: the assimilation of the Anglo-Saxons with the Celts, the Norman Conquest, reign of Elizabeth I, Puritan revolt.
Category 2.

HI - 225 ENGLISH HISTORY II

Prerequisite: HI - 224.

English history from the reign of William & Mary to the present. Focus will be on the expansion of the British Empire and the growth of industrialization.
Category 2.

HI - 231 EUROPEAN INTELLECTUAL HISTORY I

Prerequisite: Junior or senior year.

The main theoretical works, philosophic, psychological and scientific from Plato to the eighteenth century.
Category 3.

HI - 232 EUROPEAN INTELLECTUAL HISTORY II

Prerequisite: Junioror senior year.

The main theoretical works, philosophic, psychological and scientific of the nineteenth and twentieth centuries.
Category 3.

HI - 233 HISTORY OF LATIN AMERICA

Prerequisite: One year of history or consent of instructor.

The Spanish Conquest, colonial institutions, wars of independence, and development of Mexico, Brazil and Argentina.
Category 3.

HI - 234 HI - 235 RUSSIAN HISTORY I & II

Prerequisite: One year of history.

A study of major political, economic, social, intellectual and diplomatic currents in Russia, from the Kievan era to

Stalin.
Category 1.

HI - 236
HI - 237 MODERN FAR EAST HISTORY I & II

Prerequisite: Completion of freshman year.

Civilizations dramatically different from our own, focusing upon China, Japan and Southeast Asia since 1600.
Category 1.

HI - 241 ENGLISH CONSTITUTIONAL HISTORY

Prerequisites: Completion of freshman year.

The development of English constitutional history and principles from the conquest by the Anglo-Saxons to 1776.
Category 1.

HI - 242 HISTORY OF EARLY MODERN EUROPE

Forces that shaped Europe since the Reformation: the political, economic, and intellectual context of the external expansion as well as the external turmoils, such as the Thirty Years War, and the European economy to 1789.
Category 2.

HI - 243 EUROPEAN URBAN HISTORY

The process of accelerating urbanization in Europe since the eighteenth century; cultural, social, economic and political aspects of urban life.
Category 3.

HI - 244 AMERICAN URBAN HISTORY

The process of accelerating urbanization in America since the nineteenth century; cultural, social economic and political aspects of urban life.
Category 2.

HI - 245 HISTORY OF MODERN GERMANY I

The origins and growth of Brandenburg-Prussia; their impact on the rest of Germany; from the foundation of the Holy Roman Empire to the emergence of the Second Reich in 1871.
Category 1.

HI - 246 HISTORY OF MODERN GERMANY II

German economic and political crises from 1870 to the present.
Category 1.

HI - 249 U.S. LABOR HISTORY I

Prerequisites: HI - 111, HI - 112.

The relationship between workers, their employers and the surrounding community between 1815 and World War II.
Category 2.

HI - 250 U. S. LABOR HISTORY II

Prerequisites: HI - 111, HI - 112.

Examines the American Labor movement from World War II to the present.
Category 2.

HI - 261 MIDDLE EAST HISTORY I

The rise and expansion of Islam; the Caliphate; Muslim religion, civilization and impact on the West; decline of medieval Islam.
Category 2.

HI - 262 MIDDLE EAST HISTORY II

The Ottoman Empire; expansion; institutions; impact on Europe; decline of the Empire.
Category 2.

HI - 300 THE EARLY NATIONAL PERIOD OF THE U.S.:1783-1829

Prerequisites: HI - 111, HI - 112

The Confederation, Constitution, the emergence of political parties and the rise of American nationality.
Category 3.

HI - 251 AGE OF JACKSON
Prerequisites: HI - 111, HI - 112.
Political, social, economic, and intellectual developments in the second quarter of the nineteenth century.
Category 3.

HI - 252 CIVIL WAR & RECONSTRUCTION
Prerequisites: HI - 111, HI - 112.
Sectionalism, slavery, and modern industrial warfare as well as their impact on the political and racial fabric of America.
Category 1.

HI - 253 POPULISM AND PROGRESSIVISM: 1877 - 1914
Prerequisites: HI - 111, HI - 112.
The Age of Reform; particular attention will be paid to the problems of immigration, industrialization, and urbanization in this age.
Category 2.

HI - 254 TWENTIETH CENTURY U.S. HISTORY
Prerequisites: HI - 111, HI - 112.
Contemporary American civilization from the Harding Administration into the post-World War II period.
Category 1.

HI - 305 ANCIENT HISTORY
Prerequisites: Completion of freshmen year.
The history, culture and politics of ancient Greece and Rome.
Category 2.

HI - 306 RENAISSANCE AND REFORMATION
Prerequisite: Sophomores, Juniors, Seniors.
Intellectual and cultural history of Europe from the middle of the thirteenth to the middle of the sixteenth century.
Category 3.

HI - 307 THE AGE OF THE BOURBONS
Prerequisite: Completion of freshmen year.
Domestic and foreign problems of sixteenth, seventeenth-and eighteenth-century France.
Category 3.

HI - 308 EUROPE IN THE 19TH CENTURY
Prerequisite: Sophomores, Juniors,Seniors.
The French Revolution,Napoleon, Congress of Vienna; Nationalism, Liberalism, Socialism; Second French Empire; German and Italian unification.
Category 2.

HI - 309 DIPLOMATIC HISTORY OF MODERN EUROPE
Prerequisite: Sophomores, Juniors, Seniors.
The foreign policies of the major European nations from 1870 to the present.
Category 3.

HI - 310/ PO - 338 HISTORY OF POLITICAL THEORY I
Prerequisites: Junior, Senior, or permission of Instructor.
The development of political thought from the Greeks to The Enlightenment.
Category 2.

HI - 311/ PO - 339 HISTORY OF POLITICAL THEORY II
Prerequisites: Junior, Senior or permission of instructor.
The development of political thought from The Enlightenment to the present.
Category 2.

HI - 312 20TH CENTURY EUROPE I
Prerequisites: HI - 101 and HI -102.
The politics and economics of WWI; the pattern of restlessness between the wars in the rise of

dictatorship in Germany, Italy, and Spain; the regimentation of economic control.
Category 1.

HI - 313 20TH CENTURY EUROPE II
Prerequisites: HI - 101 and HI -102.
Politics and diplomacy of WWII; the dynamics of the rebirth of Europe since V-E Day. The effects of total war upon Europe.
Category 1.

HI - 314 20TH CENTURY MIDDLE EAST HISTORY
Prerequisite: Sophomores, Juniors, Seniors.
The Young Turk Revolution; division of Ottoman Empire in World War I; rise of new states; the Arab-Israeli conflict.
Category 1.

HI - 315 HISTORICAL QUANTIFICATION
Prerequisites: Juniors,Seniors.
Theoretical statistical procedures related to historical studies; use of the computer to manipulate and test these procedures.
Category 3.

HI - 400 INDEPENDENT STUDY IN HISTORY
Prerequisite: Approval of the department or consent of the instructor.
Special topics for advanced research and study under the guidance of a faculty member.
Category 1.

HI - 410 AMERICAN HISTORY AND HISTORIANS
Prerequisite: Written consent of the instructor.
Intensive study of original sources and preparation of a research paper; analysis of major schools of historical thought.
Category 3.

HI - 420 SEMINAR IN AMERICAN CONSTITUTIONAL HISTORY
Prerequisite: Written consent of instructor.
Reading, research and discussion on a specially selected phase of American constitutional development; an original paper of significant scholarship is required.
Category 3.

HI - 430 EUROPEAN HISTORY AND HISTORIANS
Prerequisite: Written consent of instructor.
The study of Europe's major schools of historical thought with emphasis on how Europe's history has been written.
Category 3.

HI - 440 INTERNSHIP IN AMERICAN STUDIES
Prerequisite: Consent of instructor.
Internships in museums, archives, government agencies, etc. Performing a variety of tasks at beginning professional level in cooperating institutions.
Category 1. 6 - 12 hours.

Graduate Courses

HI8 - 105 HISTORY OF WESTERN LAW
The history of the development of law from the ancient Near East through Roman, Greek, Medieval, and Modern Times.

HI8 - 120 THE AMERICAN REVOLUTIONARY PERIOD AND THE MAKING OF THE CONSTITUTION: 1760-90.
Prerequisite: one year U.S. History
The rise of revolutionary sentiment, military aspects of the Revolution itself, the Articles of

Confederation, and the making of the federal constitution and Bill of Rights.

HI8 - 130 CIVIL WAR AND RECONSTRUCTION

Sectionalism, slavery, and modern industrial warfare as well as their impact on the political and racial fabric of America.

HI8 - 140 20TH CENTURY U.S. HISTORY

Contemporary American civilization from the Harding Administration to post-World War II.

HI8 - 150 U.S. HISTORY SINCE 1945

Domestic and foreign policy of the Truman, Eisenhower, Kennedy, Johnson, Nixon, and Ford administrations, and as far thereafter as time permits.

HI8 - 200 AMERICAN INDIAN: PAST AND PRESENT

The American Indian in history, the encounter between Indian and European civilizations and the relationship of Indian culture to Indian history.

HI8 - 210 AMERICAN IMMIGRATION HISTORY

Survey of immigration: old world background, impact on U.S., nativism, cultural pluralism, religion, mobility, family and politics.

HI8 - 212 HISTORY OF THE COLD WAR

The origins of the Cold War, American, Soviet and Chinese foreign policies, arms control negotiations and future prospects.

HI8 - 220 U.S. CONSTITUTIONAL HISTORY

Decisions of U.S. Supreme Court and their effects from 1789 to the present.

HI8 - 310 CIVIL LIBERTIES
Prerequisite: one year U.S. History

American civil liberties as interpreted by the Warren-Burger Courts: religion, freedom of communication, association, peaceable assembly, rights of criminal defendants,the loyalty question.

HI8 - 315 ORGANIZED LABOR: A CONTEMPORARY VIEW

Examines the American labor movement from a historical perspective and its position in the United States today.

HI8 - 326 U.S. FOREIGN POLICY IN TRANSITION: 1861-1920

A study of the changes in U.S. foreign policy from the proclamation of the Union blockade to the 1920 presidential election.

HI8 - 330 AMERICAN-RUSSIAN RELATIONS, 1781-PRESENT

An analysis of American-Russian relations from their inception to the present, stressing the period since 1917.

HI8 - 335 U.S. AND EAST ASIA

An examination of the American role in East Asia, focusing upon American-Chinese relations, American-Japanese relations and the Indochina conflict.

HI8 - 405 EUROPEAN INTERNATIONAL POLITICS, 1815-PRESENT

An analysis of the foreign policies of the major European nations, from 1870 to 1945.

HI8 - 410 HISTORY OF IRELAND (I)

Ireland since 432. Origins, course and growth of Irish civilization

and problems with England since the landing of the Anglo-Normans.

HI8 - 415 HISTORY OF IRELAND (II)

A continuation of HI8 - 410;the second term continues an analysis of the politics and economics after the union with England in 180l.

HI8 - 600 MIDDLE EAST HISTORY I

Prophet Mohammed and the rise of Islam; the Islamic religion; the Muslim-Arab civilization and impact on the West.

HI8 - 610 MIDDLE EAST HISTORY II

The rise and expansion of the Ottoman Empire; governmental structure; impact on Europe; the decline of the Ottomans.

HI8 - 615 THE RISE OF THE CONTEMPORARY MIDDLE EAST

Analysis of the forces which shaped modern Middle East history; European imperialism after World War I; the struggle for Palestine.

HI8 - 650 MODERN AFRICAN HISTORY (SUB-SAHARA)

The major political, cultural, economic and international aspects of the region from modern times through the present independence movements.

HI8 - 700 JAPAN IN THE TWENTIETH CENTURY

An evaluation of the role of Japan as an emerging world power and economic giant during the present century.

HI8 - 785 THE U.S. AND THE MIDDLE EAST

Discusses growth of U.S. economic, cultural, political and strategic interests in Middle East; emphasis on post-World War II period.

HI8 - 820 CIVIL-MILITARY RELATIONS

A study of the modern military establishment and its impact upon the political and social institutions of various nations.

HI8 - POLITICAL TERRORISM IN HISTORICAL PERSPECTIVE

A comparative approach to the terrorist movements of the 19th and 20th centuries, concentrating on the European groups.

HI9 - 100 THE STUDY AND WRITING OF HISTORY

Historical methodology, modern historiographical views and the emergence of the New History, i.e. psychohistory, family history and quantitative history.

HI9 - 460 EUROPEAN INTELLECTUAL HISTORY FROM THE ENLIGHTENMENT TO THE PRESENT

The major ideas of the era: Utilitarian, Nationalist, and Socialist Schools; Fascism, Communism and Liberalism.

HI9 - 470 MODERN FRANCE

Selected topics dealing with France from the Revolution to the present.

HI9 - 520 RUSSIA IN THE 20TH CENTURY

An evaluation of major political, economic and diplomatic developments in the Soviet Union, stressing Leninism, Stalinism and Khrushchevism.

HI9 - 530 THE MIND OF MODERN RUSSIA

An analysis of the central at-

titudes and ideas that have shaped the Russian mind from the Muscovite era to the present.

HI9 - 700 CHINA IN THE 20TH CENTURY

A consideration of the major political, diplomatic and intellectual developments in China, since 1949.

HI9 - 920 SEMINAR ON AMERICAN CONSTITUTIONAL HISTORY

Varied topics to meet the student's needs, e.g., the Marshall Court, Taney Court, Warren-Burger Courts, etc.

PO - 101 PRINCIPLES OF POLITICAL SCIENCE

An introduction to political analysis; study of the concepts of power, legitimacy, natural law, justice and liberty.
Category I.

PO - 102 CONSTITUTIONS: U.S. AND MASS.

Examines the origins and development of the U.S. and Massachusetts Constitutions. Meets Chapter 72, Sec. 2A requirement.
Category 1.

PO - 201 INTERNATIONAL RELATIONS I

Prerequisite: PO - 101.

The theory of international relations and important contemporary problems.
Category I.

PO - 202 INTERNATIONAL RELATIONS II

Prerequisite: PO - 101.

A continuing consideration of the theory of international relations and important contemporary problems.
Category 1.

PO - 210 AMERICAN GOVERNMENT

Prerequisite: PO - 101.

Examines our national government and politics.
Category 1.

PO - 215 STATE AND LOCAL GOVERNMENT

Prerequisite: PO - 101.

Examines sub-national governments and politics in the United States;the structure and problems of these governments.
Category 1.

PO - 216 POLITICAL PARTIES AND PRESSURE GROUPS

Prerequisite: PO - 101 or permission of instructor.

Examines the organization, functions, and methods of political parties; the role of interest groups in the American political process.
Category 1.

PO - 217 THE LEGISLATIVE PROCESS

Prerequisites: PO - 101, PO - 210, or permission of instructor.

The nature and function of the U.S. Congress, including legislative campaigns, politics and major problems of Congress.
Category 3.

PO - 220 COMPARATIVE POLITICS I

Prerequisite: PO - 101.

A comparative study of the politics and governments of Great Britain, West Germany and the Soviet Union.
Category 1.

PO - 221 COMPARATIVE POLITICS II

Prerequisite: PO - 101.

A comparative study of the political and social systems of South Africa and India, including recent trends in their political development.
Category I.

PO - 222 GOVERNMENT AND POLITICS OF LATIN AMERICA.

Prerequisite: PO - 101 or permission of instructor

The political organization,problems and possibilities of representative Latin-American countries. Special emphasis will be given to crisis areas.
Category 3.

PO - 330 POLITICS OF THE MIDDLE EAST I

Prerequisite: PO - 101 or permission of instructor.

Discusses governments and politics of eastern Arab countries,
Turkey, Iran, Israel. International rivalries in the area are also discussed.
Category I.

PO - 331 POLITICS OF THE MIDDLE EAST II

Prerequisite: PO - 101 or permission of instructor.

Discusses liberation of North African countries from imperialism; politics of independence; nation building and international rivalries in the area.
Category 1.

PO - 350 SOVIET GOVERNMENT & POLITICS

Prerequisites: PO - 101, or permission of instructor.

An analysis of the forces and institutions which have influenced political developments in the Soviet Union since 1917.
Category 2.

PO - 351 COMPARATIVE EAST EUROPEAN GOVERNMENT AND POLITICS

Prerequisite: PO - 101 or permission of instructor.

An analysis of the political developments in the East European nations since World War II.
Category 3.

PO - 355 SOVIET FOREIGN POLICY

Prerequisite: PO - 101 or permission of instructor.

Instruments of Soviet foreign relations; an analysis of Russian foreign affairs since I9I7.
Category 2.

PO - 360 THE GOVERNMENT AND POLITICS OF CHINA

Prerequisite: PO - 101 or permission of instructor.

Political and International developments of modern China; Communist ideology and instruments of power.
Category 3.

PO - 380 AMERICAN FOREIGN POLICY SINCE THE COLD WAR

Prerequisites: PO - 101, HI - 112, or permission of instructor.

Instruments of American foreignpolicy;major foreign policy developments since I947.*Category 3.*

Graduate Courses

PO8 - 115 SOVIET POLITICAL INSTITUTIONS

An analysis of the Soviet political system - the role of the Communist Party, state apparatus, military establishment and economic institutions.

PO8 - 180 AMERICAN FOREIGN POLICY

An analysis of the formulation of American foreign relations, as well as a consideration of developments since the Cold War.

PO8 - 330 THE MODERN PRESIDENCY

This course will examine the

evolution of the Presidency. Special attention given to those Presidents who have expanded the office.

PO8 - 520 SOVIET FOREIGN POLICY

A study of the forces that determine the conduct of Soviet foreign relations, emphasizing the period since 1945.

MANAGEMENT

Undergraduate Courses

MG - 100 THE ADMINISTRATOR

General survey course introducing students to the area of management and administration. Outlines broad subject areas in management.
Category 3.

MG - 110 FUNDAMENTALS OF ACCOUNTING I

Principles, concepts, procedures, and techniques of financial accounting necessary for the preparation, understanding, and interpretation of accounting information.
Category 1.

MG - 111 FUNDAMENTALS OF ACCOUNTING II

Prerequisite: MG - 110.

Continuation of topics covered in MG - 110.
Category I.

MG - 200 FUNDAMENTALS OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

Study of management practices and behavior in organizational settings. Emphasis on introduction to managerial principles, concepts and fundamentals.
Category 1.

MG - 300 PROBLEM SOLVING IN ORGANIZATIONS

Prerequisite: MG - 200.

Continuation of concepts covered in MG - 200 fundamentals course. Some application of topics to situations.
Category 1.

MG - 301 THEORIES AND CASES IN ADMINISTRATION

Prerequisite: MG - 300.

Advanced study of the functions and processes of management. Application of topics covered in MG - 300.
Category 3.

MG - 305 ORGANIZATIONAL DYNAMICS

Prerequisite: MG - 200.

A study of behavior principles which underlie the prevention and solution of problems in both individual and group contexts.
Category 1.

MG - 306 PRINCIPLES OF PERSONNEL MANAGEMENT

Prerequisite: MG - 305.

An examination of the functional areas of personnel management regarding EEO/AA, recruiting and selection, training and development, compensation administration.
Category 3.

MG - 310 MANAGERIAL ACCOUNTING

Prerequisites: MG - 110, MG - 111, MG - 200.

Analysis, interpretation, and use of accounting data for effective managerial planning, control, and decision making.
Category 1.

MG - 315 QUANTITATIVE ANALYSIS AND INFORMATION SYSTEMS
Prerequisites: CS - 210, and MA -302.
Introduction to basic quantitative analysis applied to management planning and operations systems. Includes business information systems, applications.
Category 1.

MG - 320 BUSINESS LAW I
Introduction to legal concepts as applied to the study of contracts, personal property, sales, and the Uniform Commercial Code.
Category 3.

MG - 321 BUSINESS LAW II
Prerequisite: MG - 320.
Continuation of topics covered in MG - 320. Study of laws of partnerships and corporations.
Category 3.

MG - 360 PUBLIC PROGRAM ANALYSIS
Prerequisite: MG - 200.
Focuses on the implementation and evaluation of governmental programs; why some work and others do not.
Category 1.

MG - 361 PUBLIC MANAGEMENT
Prerequisite: MG - 360 or department consent.
Emphasizes the key differences as well as the similarities between management practices in the private and public sectors.
Category 1.

MG - 370 INTERMEDIATE ACCOUNTING I
Prerequisites: MG - 110, MG - 111.
Accounting theory, principles, concepts, and procedures applied to balance sheet, and income statement accounts. Presentation and interpretation of financial reports.
Category 1.

MG - 371 INTERMEDIATE ACCOUNTING II
Prerequisite: MG - 370.
Cntinuation of MG - 370.
Category 1.

MG - 372 ADVANCED ACCOUNTING I
Prerequisite: MG - 370.
Mergers and consolidations; parent and subsidiary relationships; pooling of interests and purchases; fund accounting; price-level accounting.
Category 1.

MG - 373 ADVANCED ACCOUNTING II
Prerequisite: MG - 372.
Special advanced topics including review of Accounting Research Bulletins of the AICPA.
Category 1.

MG - 374 COST ACCOUNTING
Prerequisite: MG - 310.
Accounting for costs in business enterprises. Emphasis placed on fundamental principles including job order, process, and standard costs.
Category 1.

MG - 375 FEDERAL INCOME TAXATION
Prerequisites: MG - 370, MG -371..
A study of federal income taxation as applied to individuals, corporations, and partnerships.
Category 1.

MG - 376 AUDITING
Prerequisites: MG - 371, MG - 372, MG - 374.
Basic auditing concepts and developments and their application to the examination, evaluation, and reporting of financial data.
Category 1.

MG - 400 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR I
Prerequisites: MG - 300, and MG -305..

Study of concepts, theory, research and operational problems of organizations. Analysis of organization behavior, work groups and intergroup behavior models.
Category 3.

MG - 401 MANAGEMENT AND ORGANIZATIONAL BEHAVIOR II
Prerequisite: MG - 400.
Continuation of topics covered in MG - 400 with additional theory and case studies, behavioral science/systems approach is taken.
Category 3.

MG - 403 FINANCIAL MANAGEMENT I
Prerequisites: MG - 310 and MG -305.
Financial statements,analysis for solvency and profitability, cash budgeting, working capital management, short term financing, use of financial leverage.
Category 1.

MG - 404 FINANCIAL MANAGEMENT II
Prerequisite: MG - 403.
Continuation of MG - 403, evaluating investment - opportunities and determining least cost sources of funds. Discounting cash flow, capital budgeting, cost-of-capital.

MG - 405 MARKETING I
Prerequisites: MG - 200, MA - 250.
Overview of the full range of activities involved in marketing; develops an understanding of marketing principles, problems, and processes.
Category 1.

MG - 406 MARKETING II
Prerequisite: MG - 405.
Advanced topics covered in MG -405 with case studies to integrate all marketing functions.
Category 1.

MG - 407 FUNDAMENTALS OF PRODUCTIONS MANAGEMENT I
Prerequisites: MG - 300, MG - 310, MG - 315.
Principles of organization and administration of the function of production; translation of production requirements into facilities.
Category 3.

MG - 408 FUNDAMENTALS OF PRODUCTION MANAGEMENT II
Prerquisite: MG - 407.
Continuation of topics of MG -407 with focus on production planning and flow.
Category 3.

MG - 409 QUANTITATIVE ANALYSIS AND TECHNIQUES I: LINEAR MODELS FOR ADMINISTRATION
Prerequisites: MA - 302, MG - 315.
Application of Q.A. techniques to problems of linear programming, inventory models, PERT-CPM networks.
Category 3.

MG - 410 QUANTITATIVE ANALYSIS AND TECHNIQUES II: STOCHASTIC MODELS FOR ADMINISTRATION
Prerquisite: MG - 409.
Application of stochastic models and techniques to solution of operational problems. Includes waiting line theory, replace models, etc.
Category 3.

MG - 415 SECURITIES ANALYSIS I
Prerequisites: MG - 305, MG - 310, MG - 403.
Investigates securities exchange institutions. Explores measures

used to evaluate investment opportunities. Industrial, transportation, insurance, banking and real-estate areas are considered.
Category 3.

MG - 416 SECURITIES ANALYSIS II
Prerequisites: MG - 310, MG - 403.
Methods used to evaluate securities. Their place in the investment portfolios of industry, government, personal, and financial intermediaries.
Category 3.

MG - 420 MARKETING RESEARCH
Prerequisite: MG - 405.
Nature and scope of marketing research. Application of scientific methods, sources and collection of data, reporting and evaluation.
Category 3.

MG - 422 RETAILING
Prerequisite: MG - 405.
Demand analysis, consumer behavior, planning and control of the merchandising functions; retailing as a career.
Category 3.

MG - 430 ADMINISTRATIVE PRACTICES AND MANAGEMENT
Prerequisites: MG - 300, MG - 305, MG - 315.
Overview and analysis of human conduct in work-organization settings.
Category 3.

MG - 462 EMPLOYEE RELATIONS IN THE PUBLIC SECTOR
Prerequisite: MG - 361.
A survey of practices in public personnel administration, emphasizing collective bargaining and the impact of unions.
Category 1.

MG - 464 GOVERNMENT BUDGETING SYSTEMS
Prerequisites:MG - 111 and MG - 361.
A" hands on" approach; how budgets are prepared and used as tools for policy-making.
Category 1.

MG - 474 CORPORATE LAW
Prerequisite: MG - 320.
Corporate powers and corporate management. Designed for future corporate executives and accountants.
Category 3.

MG - 480 CURRENT CHALLENGES TO MANAGEMENT
Prerequisite: MG - 200.
The impact of governmental regulation on business and itsresponse will be evaluated by unique debate-type format.
Category 1.

MG - 481 INDEPENDENT STUDY IN BUSINESS ADMINISTRATION
Prerequisites: MG - 300, MG - 305, MG - 310 and permission of instructor.
Independent study in business administration, usually involving field work which is not an internship.
Category 3. 1-6 hours.

MG - 482 SELECTED TOPICS IN BUSINESS ADMINISTRATION
Prerequisites: MG - 305, MG - 403, MG - 405 and permission of instructor.
Selection of topics of mutual interest to the student and faculty.
Category 3. 1-6 hours.

MG - 483 INTERNSHIP IN HEALTH ADMINISTRATION
Prerequisites: MG - 300, MG - 450 and permission of department.
Practical experience in operations of health administration. Internships within co-operative health facilities with on-site

supervision and evaluation.
Category 3. 1-6 hours.

MG - 484 INTERNSHIP IN PUBLIC ADMINISTRATION

Prerequisites: MG - 361 and permission of instructor.

An opportunity to gain practical experience in the operations of government under the supervision of agency personnel.
Category 3. 1-12 hours.

MG - 485 PRACTICUM IN PUBLIC MANAGEMENT

Prerequisites: MG - 361 and permission of instructor.

Group field work on a major project designed to improve the performance of a specific government agency.
Category 1. 1-9 hours.

MG - 486 INTERNSHIP IN BUSINESS ADMINISTRATION

Prerequisites: MG - 305,MG - 403, MG - 405, and department consent.

Practical experience in operations of businesses. Internships within co-operative business firms with on-site supervision and evaluation.
Category 3. 1-12 hours.

MG - 490 ADMINISTRATIVE STRATEGY FORMULATION AND IMPLEMENTATION

Prerequisites: MG - 403, MG - 405, or permission of instructor.

Capstone course drawing on information provided to students in other functional areas such as finance, marketing, general management; skill development.
Category 3.

MG - 491 INDEPENDENT STUDY IN HEALTH ADMINISTRATION

Prerequisites: MG - 300, MG - 450 or permission of instructor.

Independent study in health: usually involving field work which is not an internship.
Category 3. 1-6 hours.

MG - 492 SELECTED TOPICS IN HEALTH ADMINISTRATION

Prerequisites: MG - 361 or permission of instructor.

Selected topics in health administration of mutual interest to the student and faculty.
Category 3. 1-6 hours.

MG - 493 SELECTED TOPICS IN GOVERNMENT ADMINISTRATION

Prerequisites: MG - 361 and permission of instructor.

Recent developments in public administration of mutual interest to students and faculty.
Category 3.1-6 hours.

Graduate Courses

MG8 - 001 MARKET FORECASTING AND PLANNING

Analysis and development of sales forecasts and utilization of information in the operations of a firm.

MG8 - 002 MANAGEMENT BY OBJECTIVES I

Analysis of M.B.O. from a theoretical and practitioner's point of view. Students must take both M.B.O. I and II courses.

MG8 - 003 MANAGEMENT BY OBJECTIVES II

Prerequisite: MG8 - 002.

Seminar is arranged in areas clearly delineating concepts important to the utilization of human resources in all types of work organizations.

MG8 - 004 HUMAN RESOURCE UTILIZATION I

Concepts important to the utilization of human resources in all types of work organizations.

MG8 - 005 HUMAN RESOURCE UTILIZATION II

Seminar encourages participants to develop their maximum ability in up-grading of job skills. Small group projects will be used.

MG8 - 073 WORKSHOP IN MANAGEMENT BY OBJECTIVES

Application of M.B.O. through case studies, practical exercises, role playing, and field research.

MG8 - 100 SEMINAR IN SMALL BUSINESS MANAGEMENT

Examines various aspects of small business management from financial and legal issues through personnel awareness and solution of small business problems.

MG8 - 175 LABOR RELATIONS AND COLLECTIVE BARGAINING

Introductory review of the public and private labor-relations system in U.S.

MG8 - 180 GOVERNMENT REGULATION OF BUSINESS

Overview of government regulation of the operations of both large and small business firms.

MG8 - 200 PRINCIPLES OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOR

Realistic and practical management skills are developed.

MG8 - 300 TECHNIQUES OF PROBLEM-SOLVING IN ORGANIZATIONS

Characteristic tasks of managers, decision-making, and problem-solving.

MG8 - 306 ORGANIZATIONAL AND HUMAN DYNAMICS

An examination of the interaction between organizational structure and human behavior; study of concepts, theory, research and operational problems.

MG8 - 400 BUDGETARY MANAGEMENT FOR ADMINISTRATORS

Examines supervisory responsibility of budget development, allocation, and monetary control; includes non-technical fiscal control and decision-making.

MG8 - 410 COMPUTER UTILIZATION IN MANAGEMENT SETTINGS

Utilization of computer-assisted technology and systems analysis; a non-technical course ranging from state-of-the-art to management implications.

MG8 - 419 FEDERAL TAXATION

Federal income and employment taxes with special emphasis on personal income taxes and preparation of tax returns.

MG8 - 420 DEVELOPING FINANCIAL MANAGEMENT FOR SMALL BUSINESSES

Skills developed to plan, budget, administer, control and evaluate the financial aspects of small businesses.

MG8 - 425 INDUSTRIAL MANAGEMENT FOR SMALL BUSINESS

Management skills for small business, ranging from business planning, production, planning to break-even analysis, cash flows.

MG8 - 430 MARKETING FOR SMALL BUSINESS

Application of marketing techniques for small business.

MG8 - 500 SELECTED TOPICS IN BUSINESS ADMINISTRATION

Examines topics of mutual in-

terest to students and faculty in the area of Small Business Administration.

MG8 - 863 WORKSHOP IN HUMAN RESOURCE UTILIZATION

Concepts of job enrichment for managers and followers, coping with change and conflict and the development of management systems.

MG9 - 100 MANAGERIAL ECONOMICS FOR ADMINISTRATORS

Economics and operation of organizations; macro and micro theory, marginal analysis, price-output determinations, etc.

MG9 - 150 BEHAVIORAL SCIENCES FOR ADMINISTRATORS

Study of work-groups,inter-groups, and individual behavior, adapting human resource utilization concepts and theories and other research findings.

MG9 - 160 OPERATIONAL ANALYSIS AND M.I.S.

Management information sys tems knowledge and tools including types, forms, uses, costs. Decision-making, inventory, PERT.

MG9 - 170 MARKETING MANAGEMENT

Application of administrative tools to marketing functions from strategies to techniques.

MG9 - 175 FINANCIAL MANAGEMENT

Application of administrative tools to problem analysis and solutions in finance; financial asset utilization.

MG9 - 180 ORGANIZATIONAL OPERATIONS

Application of administrative tools to solution of logistic, operational, and production functions; utilization of technological assests.

MG9 - 500 ADMINISTRATIVE POLICY FORM AND STRATEGY

Prerequisites: MG9 - 150, 9-170, 9-175 plus any one of the following: 9-100, 9-160, 9-180, or equivalent or permission of instructor.

Capstone integrative course designed to develop administrative skills, and implementation of strategies for organizations.

MATHEMATICS

Undergraduate Courses

MA - 100 BASIC MATHEMATICS

For the student who has little or no background in mathematics with the necessary arithmetic and algebra for the understanding of today's mathematics.
Category 1.

MA - 110 COLLEGE ALGEBRA

Properties of the real number system based upon set-theoretical foundations; linear, quadratic, and simultaneous equations, inequalities, absolute value, complex numbers, determinants, induction.
Category 1.

MA - 115 COLLEGE ALGEBRA AND TRIGONOMETRY

For Management majors: the background in algebra and trigonometry needed for calculus. Open to Management majors only.
Category 1.

MA - 120 COLLEGE TRIGONOMETRY

Plane trigonometry required for the study of calculus; trigonometry of the general angle, the use of logarithms, solution of right triangles, radian measure, identities and other topics.
Category 1.

MA - 130 MODERN MATHEMATICS FOR ELEMENTARY MAJORS

Mathematical concepts needed to teach the new approaches found in modern arithmetic textbooks; prepares prospective teachers of mathematics. Noncredit for math majors.
Category 1.

MA - 131 MODERN GEOMETRY FOR ELEMENTARY MAJORS

Geometric concepts from an intuitive point of view; measurement of length and angles, closed curves, circles, mathematical constructions, congruent sets of points, area of plane regions, and graphs; noncredit for math majors.
Category 1.

MA - 140 PROBLEM SOLVING

Develops skill in translating word problems into mathematical language; types of problems and basic relationships are discussed.
Category 1. 1 hour.

MA - 160 SURVEY OF MATHEMATICS I

Topics to convey an appreciation of mathematics such as logic, set theory, probability, statistics, etc.
Category 1.

MA - 161 SURVEY OF MATHEMATICS II

Topics to convey an appreciation of mathematics such as algebra, geometry, number theory, and others.
Category 1.

MA - 170 ANALYTICAL GEOMETRY

Essential classical topics of analytical geometry; graphs and their uses, and applications to empirical curve fitting.
Category 1.

MA - 220 DISCRETE MATHEMATICS

Relations, functions, binary operations, groups, rings, fields, the structure of the number system, and numeration systems.
Category 1.

MA - 221 MODERN MATHEMATICS

Prerequisite: MA - 220.

Continuation of MA - 220; algebraic structures, equivalence relations; inequalities; construction of the rationals.
Category 1.

MA - 225 BUSINESS MATH I

Topics include checking accounts, payroll, simple interest, notes, discount, consumer interest, financial statements, retailing and investments.
Category 3.

MA - 250 INTRODUCTION TO STATISTICS I

Probability and basic statistical techniques and decision making as they are applied to data.
Category 1.

MA - 251 INTRODUCTION TO STATISTICS II

Prerequisite: MA - 250 or equivalent or permission of Instructor.

Continuation of MA - 250; including regression, correlation, Chi-square and contingency tables, analysis of variance and sampling techniques; use of

computers will be employed.
Category 1.

MA - 300 CALCULUS I
Prerequisite: Trigonometry or MA - 120.
Rate of change of a function; limits, derivatives of algebraic functions and applications of the derivative; integration of algebraic functions and trigonometric functions.
Category 1. 4 hours.

MA - 301 CALCULUS II
Prerequisite: MA - 300.
Continuation of MA - 300; integration, applications of the definite integral, transcendental functions and methods of integration.
Category 1. 4 hours.

MA - 302 CALCULUS I FOR MANAGEMENT
Prerequisite: MA - 115.
Rate of change of a function, limits, derivatives of algebraic functions, applications of the derivative with emphasis on business applications.
Category 1. 4 hours.

MA - 303 CALCULUS II FOR MANAGEMENT
Prerequisite: MA - 302.
Continuation of MA - 302; integration, applications of the integral with emphasis on business applications.
Category 3. 4 hours.

MA - 305 ABSTRACT ALGEBRA
Prerequisite: MA - 220.
Fundamental concepts of sets, mathematical systems, groups, rings, and fields.
Category 3.

MA - 310 CALCULUS III
Prerequisite: MA - 301.
Continuation of calculus MA 302; indeterminate forms, infinite series, vectors, partial differentiation, multiple integration and line integrals.
Category 1.

MA - 310 CALCULUS III
Prerequisite: MA - 301.
Continuation of calculus MA 302; indeterminate forms, infinite series, vectors, partial idfferentiation, multiple integration and line integrals.
Category 1.

MA - 320 ORDINARY DIFFERENTIAL EQUATIONS
Prerequisite: MA - 310 (or as co-r e q u i s i t e).
Theory and application of ordinary differential equations of the first and second orders, with linear constant-coefficient type; partial differential equations.
Category 2.

MA - 325 INTRODUCTION TO QUANTITATIVE METHODS
Prerequisite: MA - 220.
Basic probability and statistics, mathematics of finance, linear programming, simplex method, replacement problems, queuing theory, elementary game theory, inventory control models.

MA - 330 LINEAR ALGEBRA
Prerequisite: MA - 301.
Solutions of simultaneous equations by means of matrices and determinants; properties of vector spaces, linear transformations, characteristic values, bilinear and quadratic forms.
Category 2.

MA - 334 STATICS
Prerequisites: PY - 121 and MA -310.
Emphasis upon mathematical and physical formulation of principles underlying the solution of engineering problems, vector algebra; equilibrium; centroids and moments of inertia.
Category 3.

MA - 336 DYNAMICS
Prerequisite: MA - 334.
Rectilinear and curvilinear mo-

tion of a particle, relative motion, harmonic motion, variable velocities and accelerations, the work-energy principle, impulse and momentum.
Category 3.

MA - 338 SURVEYING
Prerequisite: MA - 120 or equivalent.

Use, care and adjustment of surveying instruments, boundary surveys, horizontal and vertical curves, earthwork and topography, field and laboratory work along with lectures.
Category 3.

MA - 340 MODERN GEOMETRY I
Prerequisite: Completion of freshman year.

Axiomatic geometry with emphasis on Euclidean geometry; non-Euclidean geometrics; principle of duality; Desargues', Pascal's and Brianchon's theorems; harmonic sets and divisions; cross ratio and others.
Category 2.

MA - 341 MODERN GEOMETRY II
Prerequisite: MA - 340.

Continuation of Modern Geometry I; with topics from projective Geometry.
Category 3.

MA - 350 HISTORY OF MATHEMATICS
Prerequisite: Completion of freshman year.

Surveys the developments of algebra, arithmetic, plane geometry and trigonometry by tracing certain fundamental concepts in mathematics; starts with Euclid and ends with the 20th century.
Category 3.

MA - 360 NUMBER THEORY
Prerequisite: MA - 220 or MA -130.

Theory of numbers; divisibility properties of integers, prime numbers, the Euclidean algorithm, the unique factorization theorem, congruences, Diophantine equations, quadratic reciprocity, number theoretic functions.
Category 3.

MA - 370 INTRODUCTION TO ACTUARIAL SCIENCE
Prerequisite: MA - 301.

Mathematical theory of compound interest with applications to the solution of interest problems.
Category 3.

MA - 375 LIFE CONTINGENCIES
Prerequisite: MA - 370.

A survey of the fundamental principles of life contingencies with applications to American life insurance practice.
Category 3.

MA - 380 PROBABILITY
Prerequisite: MA - 310.

Methods for interpreting the results of experiments; distributions, probabaility, random variables, binomial probability, normal probability.
Category3.

MA - 381 MATHEMATICAL STATISTIC
Prerequisite: MA - 380.

Sequel to MA - 380; sampling distributions, point and intervDY IN HEALTH
Prerequisite: Advanced standing.

A truly experiential chance for students to pursue creative, independent learning experiences designed and initiated by the student.
Category 1. 1-3 hrs.

MA - 401 RING THEORY
Prerequisite: MA - 305.

Isomorphism theorems; integral domains and fields; maximal, prime and primary ideals; divisibility theory; polynomial

rings, radicals; direct sums.
Category 3.

MA - 410 ADVANCED CALCULUS I
Prerequisite: MA - 310.
Elementary topology; definition and properties of functions; rigorous treatment of integration; Taylor's theorem; infinite series and power series.
Category 2.

MA - 411 ADVANCED CALCULUS II
Prerequisite: MA - 410.
Continuation of MA - 410; functions of several variables; introduction to different geometry, differential forms, theorems of Gauss, green and Stokes; Lebesque integration may be included.
Category 2.

MA - 425 AN INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: MA 320 or equivalent.
Solutions and techniques regarding partial differential equations for math and science students.
Category 3.

MA - 430 TOPOLOGY
Prerequisites: MA - 310, MA - 220.
Algebra of sets; cardinal and ordinal numbers; topological spaces; connectedness, compactness, and continuity; separation and countability; axioms, metric spaces; complete metric spaces; product spaces; function and quotient spaces.
Category 3.

MA - 440 INTRODUCTION TO NUMERICAL ANALYSIS
Prerequisite: MA - 310 or permission of instructor.
Methods for solutions of equations, for physics and mathematics majors or minors and computer science students; a laboratory session in conjunction with the lectures with some computing devices and techniques.
Category 1.

MA - 441 NUMERICAL METHODS
Prerequisite: MA - 440.
Numerical methods for solving differential equations in electrical, mechanical, chemical, biological, and other physical problems; a laboratory session in conjunction with the lectures with some computing devices and techniques.
Category 3.

MA - 450 COMPLEX VARIABLES
Prerequisite: MA - 310.
Theory of functions of complex variable; complex numbers, functions, limits and continuity, differentiation, Cauchy-Riemann Equations, Cauchy's Theorem, Taylor and Laurent series, residues and poles.
Category 3.

MA - 498 INTERNSHIP
Prerequisite: consent of instructor.
Working in and for an organization where one's skills can be tested in real situations. The purposes: opportunity to gain experience; to increase one's knowledge in various functional areas; and to establish important contacts with an organization.
Category 3.

MA - 499 INDEPENDENT STUDY
Prerequisite: consent of instructor.
To offer advanced students an opportunity to examine topics not normally taught in other math or computer courses. Geared to the interests of both the student and the instructor.

Graduate Courses

MA8 - 200 TOPICS IN GEOMETRY
Prerequisite: MA - 220 or equivalent.
Alternate approaches to Euclidean geometry, including analytic methods, vector methods, isometrics, and homthetics.

MA8 - 210 EUCLIDEAN AND NON-EUCLIDEAN GEOMETRY
Axiomatric geometry with emphasis on Euclidean geometry; non-Euclidean geometrics, principle of duality; Desargues' Pascal's and Briachon's theorems; harmonic sets and division, cross ratio and others.

MA8 - 230 MODERN MATHEMATICS FOR SECONDARY SCHOOL TEACHERS
Prerequisites: MA - 300, MA - 301.
Mathematical concepts from the current point of view; trigonometric, logarithmic, exponential, inverse trigonometric, and hyperbolic functions, limits, continuity, etc.

MA8 - 250 NUMBERS SYSTEMS
Development of the systems of integers, rational numbers, real numbers and complex numbers, beginning with Peano's axioms for the system of natural numbers.

MA8 - 380 PROBABILITY
Prerequisite: MA - 310 or equivalent.
Probability, combinatorial methods, random variables, probabiliy functions, moments, moment generating functions, Central Limit Theorem, sampling.

MA8 - 390 STATISTICS
Prerequisite: MA8 - 380 or equivalent.
Decision theory, estimation, hypothesis testing, regression and correlation, analysis of variance.

MA8 - 400 NUMBER THEORY
Prerequisite: MA - 220 or equivalent
Includes divisibility, primes, congruence, primitive roots, and quadratic residues.

MA8 - 500 STATISTICAL TECHNIQUES FOR BUSINESS, LIBERAL ARTS, NURSING AND THE SCIENCES
Statistical methods and decision methods as they are applied to data. Testing of hypotheses, sampling, nonparametric methods, regression, correlations, analysis of variance, time series, etc. Computer programming may be used.

MA8 - 568 SPECIAL PROBLEMS IN MATHEMATICS
Prerequisite: Permission of instructor.
Topics in mathematics not usually covered in formal course work.

MA8 - 600 ORDINARY DIFFERENTIAL EQUATIONS
Prerequisite: MA - 310.
Techniques, numerical procedures, existence,, uniqueness and properties of solutions of ordinary differential equations.

MA8 - 700 HISTORY OF MATHEMATICS
The evolution of fundamental mathematical concepts starting ca. 2000 B.C., the creators of mathematics, a partial list of problems which motivated new discoveries and relationships with other sciences and humanities.

MA9 - 100 ANALYSIS I
Prerequisite: MA - 310.

Topics include elementary topology, continuity, differentiation, integration, infinite series, as well as other topics as time permits.

MA9 - 101 ANALYSIS II
Prerequisite: MA9 - 100.

A continuation of Analysis I. Topics will include: theorems of Green, Stokes and Gauss, infinite series, Lebesque integration and other topictime may allow.

MA9 - 200 VECTOR AND TENSOR ANALYSIS
Prerequisite: MA - 310.

Vector algebra, differential and integral calculus of vectors with applications; curvilinear coordinates, reciprocal sets of vectors, contravariant and covariant vectors.

MA9 - 300 INTEGRAL EQUATIONS
Prerequisite: MA - 310.

Linear integral equations of the first and second kind are studied along with some existence theorems, approximate solutions and applications.

MA9 - 301 LINEAR ALGEBRA
Prerequisite: MA - 220 or equivalent.

Fundamental concepts of systems of linear equations, matrices, vector spaces, linear transformations, determinants, inner products, elgenvalues and eigenvectors.

MA9 - 310 PARTIAL DIFFERENTIAL EQUATIONS
Prerequisite: MA - 320.

Classification of partial differential equations: the theory of first order linear partial differential equations with constant coefficients; existence and uniqueness theorems with mixed boundary value problems.

MA9 - 320 NUMERICAL ANALYSIS OF DIFFERENTIAL EQUATIONS
Prerequisite: MA - 320.

Finite difference approximations applied to differential equations including the study of stability and convergence. Relaxation, gradient, and characteristics methods will also be studied.

MA9 - 370 THEORY OF INTEREST
Prerequisite: MA - 310.

Mathematical theory and applications of compound interest: interest discount, present value, force of interest, annuities, ammortization schedules, sinking funds, bonds, miscellaneous topics.

MA9 - 375 LIFE CONTINGENCIES
Prerequisites: MA8 - 380, MA8 -390, MA9 - 370.

Applications of probability and the theory of compound interest in the mathematics of life insurance: mortality, premiums, reserves, benefits.

MA9 - 395 MULTIPLE REGRESSION
Prerequisites: MA8 - 500, CS8 -300.

Applications of techniques of multiple regression to the statistical analysis of problems. Relations, correlations, simple linear regression, multiple regression with two independent variables, general multiple regression.

MA9 - 400 ABSTRACT ALGEBRA
Prerequisite: MA9 - 301.

Elementary properties of groups, rings, integral domains and fields. Groups through Sylow Theory and (1) Field Theory through Galois Theory of (2) Ring Theory through Primary Decomposition or (3) Linear Algebra through Jordan Cononical forms.

MA9 - 500 COMPLEX VARIABLES
Prerequisite: MA - 310 or equivalent.
Function theory through differentiation, integration, Taylor and Laurent series and conformal mapping.

MA9 - 600 TOPOLOGY
Prerequisite: MA9 - 100.
Basic topological concepts motivated by metric spaces are considered. The related properties of the separation axioms and compactness are investigated through the use of filters. If time permits, connectedness will be discussed.

MA9 - 700 BASIC CATEGORY THEORY
Prerequisite: MA9 - 400.
An introduction to the standard concepts of category theory-functors, natural transformations, universality, limits, colimits, adjoints and triples.

MA9 - 710 RING THEORY
Prerequisite: MA9 - 400.
Basic results in Noetherian Rings and Dedekind Domains.

MA9 - 720 FIELD THEORY
Prerequisite: MA9 - 400.
Basic concepts through Galois Theory including algebraic and transcendental extensions and separability.

MA9 -730 FOURIER ANALYSIS
Prerequisite: MA - 310.
Fourier Series, Integrals, and transforms with applications.

MEDIA

Undergraduate Courses

ME - 100 INTRODUCTION TO MEDIA
A team-taught survey of the fundamental areas of communication media--information, technology, and performance.
Category 1.

ME - 103 RADIO AND TELEVISION IN THE MODERN WORLD
Covers such critical issues as sex, violence, stereotyping in programming and the potential impact of new delivery systems on traditional broadcasting.
Category 1.

ME - 106 LIBRARY RESEARCH
Develops skills in finding information by using search strategies, identifying information sources, and applying them to fulfill information needs.
Category 1.

ME - 110 SPEECH
Essentials of speech production and speech writing for large and small groups. Classroom practice in delivering various types of speeches.
Category 1.

ME - 125 HISTORY OF COMMUNICATION TECHNOLOGY
Traces history of communications media from pictographic writing through the development of mass media and the latest media delivery systems.
Category 1.

ME - 135 ORAL INTERPRETATION OF LITERATURE
Techniques of reading aloud and staging non-dramatic literature--e.g., short stories, poetry, etc. The student analyzses selections and then performs them in class.
Category 1.

ME - 137 HISTORY OF THE THEATER

The history and interrelated development of film, television, theatre and radio from their beginnings to the present.
Category 2.

ME - 140 UTILIZATION OF INSTRUCTIONAL MATERIALS

Selection and use of major types of audiovisual equipment and materials; use of projection and audio equipment.
Category 1.

ME - 145 PREPARATION OF INEXPENSIVE INSTRUCTIONAL MEDIA

Creating visual instructional media applying lettering, graphics and display techniques; end products include visuals for projected and non-projected use.
Category 1.

ME - 150 INTRODUCTION TO PHOTOGRAPHY

Covers the basic theory and practice of 35mm B/W photography, including camera handling, film processing, light meters, printing and picture content.
Category 1.

ME - 190 AMERICAN ENTERTAINMENT

The history and nature of live and electronic performances from the Colonial period through the present. Television, film, theatre and radio are covered.
Category 1.

ME - 191 INTRODUCTION TO THE THEATRE

An overview of live performance, with the emphasis on audience appreciation. Performance arts and crafts are examined.
Category 1.

ME - 192 CREATIVE DRAMATICS

Principles and techniques of leading improvised dramatic activity, particularly with children. Involves sensory awareness, imagination, movement, and story dramatizations.
Category 2.

ME - 193 STORYTELLING

Presenting poetry and prose orally to children. Introductory and follow-up techniques. In-class and field practice.
Category 2.

ME - 201 SOURCES OF MEDIA INFORMATION

Prerequisite: ME - 100.

Study of the most important sources of information in Media; students will use the Learning Resources Center for solving problems.
Category 2.

ME - 210 INTRODUCTION TO REFERENCE SOURCES

Prerequisite: ME - 100.

Techniques of reference service/tools in the school library.
Category 2.

ME - 215 SPEECH FOR THE PROFESSIONAL

Prerequisite: ME - 110 or permission of instructor.

Stresses creative and flexible use of voice for the media professional. Practice in vocal quality, articulation, interpretation, accents and dialects.
Category 2.

ME - 216 CATALOGING AND ORGANIZING MATERIAL

Prerequisite: ME - 100.

Principles and procedures involved in the acquisition, cataloging, and processing of book and non-book materials.
Category 2.

ME - 220 PRINCIPLES OF GRAPHIC COMMUNICATION

Language and design of graphic communication; psychological principles of visual arts; interpretation of graphics in advertising, training, and information dissemination.
Category 2.

ME - 225 THE MUSICAL THEATRE

The history and nature of popular musical theatre. The uniqueness of musical theatre as a form is emphasized.
Category 2.

ME - 230 LEARNING RESOURCES FOR CHILDREN

Building materials collections in the library media center to fill the needs of elementary school educational programs.
Category 1.

ME - 231 INTERMEDIATE PHOTOGRAPHY

Prerequisite: ME - 150 or permission of instructor.

Study of composition principles, elements of visual language, image intent-content relationships and supportive craft skills such as perspective, exposure, processing, and printing.
Category 2.

ME - 235 LEARNING RESOURCES FOR YOUNG ADULTS

Relates the acquisition of a collection of print and non-print materials to the education program of a modern secondary school.
Category 2.

ME - 236 LIGHTING FOR MEDIA

Prerequisite: ME - 100 or permission of instructor.

The theory and practice of lighting for video, film, photography and live performance
Category 2.

ME - 240 ELEMENTS OF SCREEN LANGUAGE

The grammar of screen images in film and television; use of frame, point-of-view, light, shadow, juxtaposition, color, and transition devices.
Category 3.

ME - 241 THE ART OF THE MOTION PICUTURE

Aesthetic, historical, and theoretical dimensions of the motion picture.
Category 3.

ME - 242 BASIC 8 MM FILM PRODUCTION

Experience in making motion pictures of rudimentary level with or without sound tape accompaniment; critiques of student work.
Category 2.

ME - 243 INTRODUCTION TO FILM ANIMATION

Using Super 8mm motion picture format, students will plan and produce an animated film employing basic art techniques and graphics.
Category 2.

ME - 245 BASIC ACTING FOR STAGE AND SCREEN

Prerequisite: ME - 135 or permission of instructor.

Basic acting theory and practice. Students present brief monologues and scenes both on stage and before the camera.
Category 1.

ME - 246 ACTING II

Prerequisites: ME - 135, ME - 245 or permission.

Further development of basic acting skills for stage and screen through scene study. Some work may be done in co-operation with directing students.
Category 2.

ME - 247 PRODUCING SLIDE AND SOUND PROGRAMS

Prerequisite: ME - 150 or consent of instructor.

Planning and producing slide programs with music and narration; techniques of storyboarding; copying and synchronizing audio with visual materials.
Category 2.

ME - 248 PRODUCING AND DIRECTING AUDIO PROGRAMS

Writing, selecting and recording sound, and assembling audio programs; radio production; use of portable and studio equipment; critiques of student programs.
Category2.

ME - 250 CLASSROOM USE OF RADIO AND TELEVISION

Study of the use of radio and television as instructional media; exploring the adaptation of these media to instructional situations.
Category 2.

ME - 260 VIDEOTAPE RECORDING

Prerequisite: M - 100 or permission of the instructor.

A beginning course in video program production, using lightweight and portable equipment.
Category 1.

ME - 261 ELEMENTS OF CLOSED CIRCUIT TELEVISION

Theory and practice in use of closed circuit television; includes teleconferencing, surveillance, cable TV, self-instructional use. Field trips.
Category 1.

ME - 270 COMMUNICATION THEORY

Theories of interpersonal communication: identification and discussion of modes, channels, and techniques; interpretation of visual and verbal messages.
Category 1.

ME - 275 SCENECRAFT FOR STAGE AND SCREEN

Prerequisite: ME - 100 or permission of instructor.

Stage and studio facilities organization and use, sets and scenery, special effects,roles of personnel in television, film, theatre.
Category 2.

ME - 276 COSTUME AND MAKEUP FOR PERFORMANCE

Basics of historical research and design, applicable to both stage and screen work. Practicum in constructing costumes and applying makeup.
Category 2.

ME - 280 STAGING MEDIA PERFORMANCES I

Prerequisites: ME - 191/, ME - 245 or permission of the instructor.

Script selection, casting, scene analysis and other directorial concerns. Application to film, theatre, and television.
Category 2.

ME - 281 STAGING MEDIA PERFORMANCES II

Prerequisite: ME - 280.

A continuation of ME - 280. Advanced theoretical and practical problems facing the director. Applications for all media.
Category 2.

ME - 290 THEATRE FOR CHILDREN

Organization of a children's theatre, script selection, and visual design. Alternate performance spaces, such as classrooms and parks, emphasized.
Category 3.

ME - 320 THE LIBRARY MEDIA SPECIALIST IN THE LEARNING PROCESS

Prerequisite: Only for senior Education Media majors.

Ways the library media specialist participates in instructional programs as teacher and as consultant in and provider of media resources.
Category 3.

ME - 321 REHEARSAL AND PERFORMANCE

Prerequisite: ME - 100.

Public performance of full-length stage productions under faculty direction. Students assume performance and/or production "roles" as described in departmental manual.
Category 1.

ME - 324 THEATRE IN THE CLASSROOM

Prerequisite: Admission by interview and/or audition.

Touring plays to elementary and secondary classrooms. Acting, directing, designing and managerial responsiblities according to students' demonstrated abilities.
Category 3.

ME - 365 ADVANCED PHOTOGRAPHY

Prerequisites: ME - 150, ME - 231 or permission of instructor.

Techniques used in expressive and applied photography including the study and control of density formation, lighting, and visual problem solving.
Category 2.

ME - 367 PHOTO-JOURNALISM

Prerequisites: ME - 150, ME - 230 or permission of instructor.

The theory and practice of narrative photography applicable to daily news, feature story, and commercial journalism.
Category 2.

ME - 370 MEDIA ADVERTISING AND PUBLICITY

Prerequisite: ME - 100.

The basics of creating, preparing and disseminating advertising and publicity materials through the media. Print and non-print channels are covered.
Category 2.

ME - 375 PRODUCING OF MEDIA PERFORMANCES

Prerequisite: ME - 100 or permission of instructor.

Organization and administration of performance production companies and events. Applications for television, film, theater and radio.
Category 2.

ME - 384 REVIEWING OF MEDIA PERFORMANCES

Prerequisite: ME - 100 or permission of instructor.

Evaluation and analysis of film, television, theater and radio performances. The development of intelligent, ethical standards of judgment.
Category 3.

ME - 385 WRITING FOR TELEVISION AND RADIO

Prerequisite: ME - 100 or permission of instructor.

Creating scripted material for the electronic media. All types, styles and formats will be covered.
Category 2.

ME - 386 PLAYWRITING FOR STAGE AND SCREEN

Prerequisite: ME - 100 or permission of instructor.

Creating fictional dramatic material for television, film, and radio. Completion of a short script is required.
Category 2.

ME - 394 PRODUCING AND DIRECTING THE TELEVISION PROGRAM I

Prerequisites: ME - 100 , ME - 260 or permission of instructor.

Basics of studio production including visualization and sequencing of short scripts. Covers sound, graphics, lighting, and technical direction.
Category 2.

ME - 395 PRODUCING AND DIRECTING THE TELEVISION PROGRAM II

Prerequisites: ME - 286 , ME 394 or consent of instructor.

Focuses on production of student-oriented scripts. Includes field production and post-production dubbing and editing of sound and images.
Category 2.

ME - 404 INDEPENDENT STUDY IN MEDIA

Prerequisite: ME - 100 and permission of instructor.

Permits advanced students to in vestigate topic of special interest through research or production of a project. Periodic consultations with advisor.
Category 1.

ME - 410 SPECIAL TOPICS IN PERFORMANCE

Prerequisite: Juniors and seniors.

The in-depth examination of an area of interest in film, television, theater and radio. One time only subjects, not covered in other departmental offerings.

Category 2.

ME - 435 COOPERATIVE EXPERIENCE IN MEDIA

Prerequisites: Two relevant Media courses and consent of department.

Provides opportunity to advanced students to increase experience through internship with sponsoring community organization, institution, or business under appropriate supervision.
Category 2.

Graduate Courses

ME8 - 150 SCRIPTWRITING

Techniques of writing material for in the major media.

ME8 -245 DESIGN AND PREPARATION OF INSTRUCTIONAL MATERIALS

Designed to enrich the participants instructional performance by developing techniques of visual presentation of subject materials.

ME8 - 246 DESIGN AND PREPARATION OF INSTRUCTIONAL MATERIALS II

Prerequisite: ME8 - 245 or consent of Instructor. A materials fee will be assessed.

An advanced course in the preparation of graphic materials for display and instruction.

ME8 - 250 PHOTOGRAPHY I

Prerequisite: Adjustable camera; $10.00 laboratory fee.

A study of the methods of photographic communication. Not open to students who have completed ME - 150.

ME8 - 252 PHOTOJOURNALISM

Prerequisite: ME - 150 (Introduction to Photography) or ME8 - 250 (Photography I); ME - 250 (Advanced Photography) or ME8 -275 (Advanced Methods in Photography). Cameras are required.A lab fee of $10.00 will be charged.

A study of the photographic essay as a form of visual communication.

ME8 - 253 PHOTOGRAPHY II

Prerequisite: ME8 - 250 or equivalent.

A study of elements of composition in photographic communication.

ME8 - 256 COLOR PHOTOGRAPHY I

The use of color transparency film and 1993 color positive printing procedures. Open to students who have completed 6 semesters of photographic education, or who have advanced photographic standing and the instructor's written persmission.

ME8 - 257 SUPER 8 FILM PRODUCTION I

The student completing this course successfully will be able to demonstrate a verifiable understanding of and a basic competence in the theory and techniques of visualization required in the production of motion pictures using the super 8 mm.format.

ME8 -265 AUDIO PROGRAM PRODUCTION

Principles and techniques of producing sound programs. Laboratory experience in production.

ME8 - 360 TELEVISION PRODUCTION I

Provides the student with background and practice in the techniques of producing color television.

ME8 - 365 TELEVISION PRODUCTION II

Prerequisite: ME8 - 360 or permission of the instructor.

Designed to build upon and amplify those experiences gained in the introductory course. Primary emphasis of the course is on the production of lengthy programs utilizing the advanced techniques.

ME8 - 400 INSTRUCTIONAL TECHNOLOGY: NATURE AND USE

Provides situation for studying, evaluating, and designing techniques in the use of instructional media.

ME8 - 420 INSTRUCTIONAL SYSTEMS DESIGN

Intended to assist training and instructional personnel apply instructional technique to the solution of learning problems by using system analysis techniques.

ME8 - 435 ADMINISTERING INSTRUCTIONAL NON-PRINT MEDIA SERVICES

The principles and practices required to organize and administer production, utilization, and distribution services of non-print media in a unified media program at both the building and district level.

ME8 - 500 REFERENCE SOURCES AND SERVICES IN THE SCHOOL LIBRARY/ MEDIA CENTER

The provision of an collection of reference sources and services to students K-12 is the objective. This course will satisfy, in part, the requirements of the public school librarian's certificate.

ME8 - 605 STORYTELLING FOR LIBRARIANS

Intended for children's librarians interested in learning or improving their techniques in relating narrative poetry and prose to children.

ME8 - 640 CATALOGING FOR LEARNING RESOURCES CENTER

Develops the technical service competencies required to procure and organize materials for a school learning resources center.

ME8 - 650 SELECTION OF LIBRARY MATERIALS

For persons who wish to improve their understanding of the evaluation, selection, and acquisition of broad categories of library materials.

ME8 - 652 SELECTING AND EVALUATING ELEMENTARY SCHOOL LEARNING RESOURCES

Establishes criteria for evaluating and selecting print and non-print materials for the elementary school library; the use and limitation of standard selection aids and review media.

ME8 - 653 SELECTION OF LEARNING RESOURCES FOR YOUNG ADULTS

Fundamental principles in evaluating and selecting books and related materials for junior- and senior-high schools. The course will satisfy, in part, the requirements of the public school librarian's certificate.

ME8 - 700 ADMINISTERING THE SCHOOL LIBRARY/MEDIA CENTER

Prerequisites: ME8 - 652 or ME8 -653, ME8 - 500, ME8 - 640 or equivalent.

Planning and operating a library/media center within a school.

ME9 - 100 COMMUNICATION MEDIA

Relationships between the various concepts and divisions in the field. Includes reading and summarizing reports from the research literature.

ME9 - 300 THEORIES OF COMMUNICATION

Prerequisite: ME9 - 100 .

A survey of research and theory on the processes of personal and group communication.

ME9 - 660 ADVANCED CATALOGING AND CLASSIFICATION

Prerequisite: ME8 - 640 or consent of instructor.

The principles and problems involved in cataloging and organizing each format represented in media collections.

ME9 - 675 THE GENERIC LIBRARY IN THE COMMUNICATION PROCESS

The library as a basic function in the communication process in literate society from the book collection in the home to the memory bank in a third generation digital computer.

ME9 - 680 MODERN BOOK PUBLISHING

Covers publishing techniques and distributing practices in the book industry with a survey of the historical background from which the techniques and practices grew.

ME9 - 700 BIBLIOGRAPHIC DATA PROCESSING

Provides the background needed by the modern librarian who must deal with the planning and implementation of automated library systems.

ME9 - 710 LIBRARY NETWORKS AND TELEPROCESSING

Prerequisite: CS - 150 or CS8 -150

The role of the time-shared computer in furthering library networks and sub-networks; non-computer related activities of networks.

ME9 - 800 THE REFERENCE PROCESS: A SEMINAR

Prerequisite: A basic reference sources and methods course.

Case studies of problems in reference service. Includes consideration of theory and ethical aspects.

ME9 - 850 SEMINAR: THE TEACHING ROLE OF THE LIBRARIAN/ MEDIA SPECIALIST
Prerequisite: Advanced standing

Students will draw on basic theory learned in earlier courses to assess the teaching role of school media programs, media skills, and instructional design.

ME9 - 900 SCHOOL LIBRARY/ MEDIA CENTER PRACTICUM
Prerequisite: Advanced standing

The knowledge and skills developed in the classroom and laboratory will be assayed in practical work in a school library/media center for a total of 90 clock hours.

ME9 - 910 MEDIA INTERNSHIP
Prerequisite: Advanced standing in the concentration and demonstrated competence in the appropriate area.

ME9 - 920 DIRECTED STUDIES IN MEDIA
Prerequisite: Consent of faculty advisor. (3 semester hours. Not to exceed 6 credits toward degree).

MUSIC

Undergraduate Courses

MU - 100 MUSIC FUNDAMENTALS
Basic knowledge and theory of notation, major and minor scales, intervals, rhythms, and chords.
Category 1.

MU - 105 HARMONY I
Prerequisite: MU - 100 or permission of instructor.
Harmonization of instructor melodies, basic chord structures, ear-training, harmonic analysis, inversions, non-harmonic tones, figured bass.
Category 1.

MU - 110 HARMONY II
Prerequisite: MU - 105, or permission of instructor.
Harmonization of melodies using primary and secondary chords, harmonic analysis,ear-training, secondary dominants and modulation.
Category 1.

MU - 115 MUSIC APPRECIATION
A general survey of masterpieces of the major composers of various periods in the history of music.
Category 1.

MU - 120 HISTORY AND LITERATURE OF MUSIC I
A survey of music history from the Medieval to the Classical Period.
Category 1.

MU - 125 HISTORY AND LITERATURE OF MUSIC II
A survey of music history from the Classical Period to the 20th Century.
Category 1.

MU - 130 MUSIC OF THE BAROQUE PERIOD
The period 1600-1750 with emphasis on Bach and Handel.
Category 2.

MU - 135 MUSIC OF THE CLASSICAL PERIOD

The period 1750-1827; Haydn, Mozart and Beethoven.
Category 2.

MU - 140 MUSIC OF THE ROMANTIC PERIOD

A survey of 19th-Century music beginning with Beethoven. Emphasis on the lives of Romantic composers; their major compositions will be played in class.
Category 2.

MU - 145 TWENTIETH-CENTURY MUSIC

A comprehensive study and general listener's approach to contemporary music beginning with impressionism.
Category 2.

MU - 150 OPERA

Analysis of the masterworks of standard operatic repertoire; use of recordings and discussions of famous operas and opera singers.
Category 1.

MU - 155 THE GOLDEN ERA OF PIANO MUSIC

Beginning with the piano works of Beethoven and continuing through the Romantic tradition to the early 20th Century.
Category 2.

MU - 160 SYMPHONIC MUSIC

A survey of symphonic music beginning with the Classical Period.
Category 2.

MU - 165 THE CONCERTO

The concerto from the 18th to the 20th century with emphasis on the development of the piano concerto.
Category 2.

MU - 170 CHAMBER MUSIC

A survey of chamber music beginning with the Classical Period.
Category 2.

MU - 175 MUSIC IN AMERICA

A survey of music history and literature in America including gospel spirituals, jazz, popular and classical music.
Category 2.

MU - 180 FORM AND ANALYSIS

An introduction to and analysis of the formal structures of music.
Category 2.

MU - 237 MUSIC IN THE ELEMENTARY SCHOOL

Guiding growth in rhythmic, notational, and listening experiences. Survey of music books and materials.
Category 1.

MU - 400 INDEPENDENT STUDY IN MUSIC

Prerequisite: Consent of instructor.

An opportunity for further study in a special field of interest under faculty supervison.
Category 1.

GRADUATE COURSES

MU8 - 250 MUSIC OF THE ROMANTIC PERIOD

A survey of 19th century music beginning with Beethoven. Emphasis on listening and stylistic aspects of major romantic composers.

MU8 - 251 MUSIC APPRECIATION

A historical study of music from medieval times to the 20th century with emphasis on the outstanding masterpieces of the great composers of each period.

MU8 - 275 SYMPHONIC MUSIC

The study of symphonic masterpieces from the 18th and 19th centuries. Emphasis will be given to major composers.

MU8 - 280 THE CONCERTO

A survey of the concerto from the eighteenth to the twentieth centuries with emphasis on the development of the piano concerto.

MU8 - 300 THE ENJOYMENT OF OPERA

The beginnings of opera as a stage presentation up to and including opera series of the twentieth century; Italian, French, and German composers.

MU8 - 325 THE GOLDEN ERA OF PIANO MUSIC

The development of piano literature in the 19th and early 20th centuries; emphasis on major composers of solo piano music including Beethoven, Schumann, Chopin and Liszt.

MU8 - 370 TWENTIETH CENTURY MUSIC

A comprehensive study and general listener's approach to contemporary music in various media beginning with Impressionism.

MU8 - 390 SURVEY OF MUSIC IN AMERICA

Survey of music history and literature in America including gospel spirituals, jazz, popular and classical music.

MU/ ED8 - 400 MUSIC IN THE ELEMENTARY SCHOOL

Designed for classroom teachers; the musical concepts,skills, teaching methods and materials appropriate in the elementary school music program.

MU8 - 500 FUNDAMENTALS OF MUSIC

Notation,major and minor scales, intervals, rhythms, chords, elementary harmony and basic knowledge of the piano.

MU8 - 600 HARMONY

Prerequisite: MU8 - 500 or permission of instructor.

Continuation of MU8-500: basic choral structures and progression, inversions, cadences, and non-harmonic tones; ear-training through tonal-rhythmic dictation.

NATURAL SCIENCE/PHYSICS

NATURAL SCIENCES

Undergraduate Courses

NS - 101 PHYSICAL SCIENCE I

Survey of physics and chemistry; evolution of concepts and theories; measurement, gravitation, energy, conservation laws, kinetic molecular theory, and wave motion.
Category 1.

NS - 102 PHYSICAL SCIENCE II

Prerequisites: NS - 101 or consent of instructor.

Continuation of NS - 101; light, electricity, magnetism, fundamentals of chemistry, atoms and molecules, the structure of atoms, quantum theory and relativity.
Category 1.

NS - 103 PHYSICAL SCIENCE LABORARTORY I

Prerequisite: To be taken concurrently with NS - 101 or after completing NS - 101.

Laboratory methods and techniques associated with topics included in NS - 102.
Category 1.

NS - 104 PHYSICAL SCIENCE LABORATORY II

Prerequisite: To be taken concurrently with NS - 102 or after completing NS - 102.

Laboratory methods and techniques associated with topics included in NS - 102.
Category 1.

NS - 105 INTRODUCTION TO ASTRONOMY

The tools of the astronomer, the nature of celestrial space; star locations, motions, nature and evolution; the universe; three lectures per week.
Category 1.

NS - 108 DEVELOPMENTS IN PHYSICAL SCIENCE SINCE 1800

Chronological, non-mathematical development of contributions to science by such as Dalton, Faraday, Rutherford, the Curies, Einstein and others.
Category 1.

NS - 109 FUNDAMENTALS OF LABORATORY TECHNIQUE

Familiarization with some of the simple equipment and operations employed in making measurements in the physical sciences.
Category 1.

NS - 110 ENERGY IN THE MODERN WORLD

Interdisciplinary course examining the relation of energy and technology to living systems, community and urban life, and current social policy.
Category 1.

NS - 201 SCIENCE AND SOCIETY

Science examined in a historical and social context; the impact of science on man's interpretation of the natural world. For non-science majors.
Category 1.

NS - 260 ENERGY CONSERVATION AND MANAGEMENT

Examination of methods to conserve and manage existing and alternate energy systems and preparation of energy management plans.
Category 2.

NS - 261 ENERGY APPLICATIONS AND TECHNIQUES

Energy-measurement techniques are applied to components of energy conservation and solar conversion systems with student ingenuity encouraged.
Category 2.

NS - 262 FUNDAMENTALS OF SOLAR ENERGY

Analysis of the major concepts and systems for collection, storage, and distribution of solar via a problem-solving approach.
Category 2.

NS - 340 ENERGY CONSTRUCTION-METHODS AND TECHNIQUES

Prerequisite: NS - 260.

Drafting and model-making skills needed for site and building planning and construction detailing as related to energy systems.
Category 2.

NS - 342 SHELTER DESIGN AND ALTERNATIVE ENERGY

Prerequisites: NS - 260 and NS -340.

The process of design in planning shelter and alternative energy systems appropriate to the solution of student-selected

design problems.
Category 3.

NS - 346 DESIGN AND OPERATION OF SOLARSPACES AND GREENHOUSES

Prerequisites: NS - 260 and NS -261.

Stress will be on passive solar design together with conditions for human comfort, plant growth, and impact on attached space.
Category 3.

NS - 348 COMPUTER AND CALCULATOR APPLICATION TO ENERGY STUDIES

Prerequisites: CS - 111 or equivalent and NS - 260.

Application of comptuer programming to energy system design, engineering, and economics utilizing individual programs as well as available software.
Category 3.

NS - 349 ENERGY IMPLICATIONS OF FORESTRY AND LAND MANAGEMENT

Prerequisite: Semester of Botany I and NS - 260.

Principles and practices of forest silviculture and woodlot management with emphasis on energy forms. Students will develop own management plans.
Category 3.

NS -400 NATURAL SCIENCE SEMINAR

Prerequisite: Permission of department.

Contemporary developments in the natural sciences; technical literature, independent projects or studies, and the preparation and presentation of technical papers.
Category 1.

NS - 410 INDEPENDENT STUDIES IN NATURAL SCIENCE

Prerequisites: 24 semester hours in science, 4 courses in one science.

Opportunity for advanced students to pursue a topic of special interest involving extensive reading, experimentation, and research; departmental permission required.
Category 1.

PHYSICS

Undergraduate Courses

PY - 105 CONCEPTS OF PHYSICS I

Descriptive presentation of the fundamental concepts of classical physics: motion, energy, momentum, conservation principles and a consideration of the properties of matter.
Category 1.

PY - 106 CONCEPTS OF PHYSICSII

A qualitative approach to the fundamental notions of modern physics such as electromagnetic radiation, field theory, atomic spectra and relativity.
Category 1.

PY - 107 PHYSICS OF URBAN AND ENVIRONMENTAL PROBLEMS I

Motion and the use of energy sources in the context of several urban and environmental problems; analysis will be physical and qualitative.
Category 3.

PY - 215 BIOLOGICAL PHYSICS I
Prerequisites: Six hours of biological science and/or consent of instructor.
Traditional areas of introductory physics, such as mechanics, heat, sound, with emphasis on bio-instrumentation; two lectures and one two-hour laboratory per week.
Category 3.

PY - 216 BIOLOGICAL PHYSICS II
Prerequisite: PY - 110.
Continuation of PY - 110; research project required; two lectures and one two-hour laboratory per week.
Category 3.

PY - 114 PHYSICS OF MUSIC
Introductory mechanics and wave principles applied to musical acoustics; demonstrations of musical instruments and measuring devices.
Category 3.

PY - 115 GENERAL PHYSICS I
Prerequisite: One year of algebra , which may be taken concurrently.
The mechanics of fluids and solids, properties of matter, and heat energy; three lectures and one two-hour laboratory.
Category 1. 4 hours.

PY - 116 GENERAL PHYSICS II
Prereqisite: PY - 115.
Continuation of PY - 115; sound, theories of light, electricity and magnetism, and topics in modern physics; three lectures and a two-hour laboratory.
Category 3. 4 hours.

PY - 120 PHYSICS I
Prerequisite: One year of calculus wich may be taken concurrently.
Introduction to classical physics with emphasis on fundamental principles and conservation laws; three lectures and one two-hour laboratory.
Category 3. 4 hours.

PY - 121 PHYSICS II
Prerequisite: PY - 120.
Continuation of PY - 120; properties of electric and magnetic fields; three lectures and one two-hour laboratory.
Category 3. 4 hours.

PY - 201 MATHEMATICAL PHYSICS I
Prerequisites: Calculus I and II.
Applied mathematics for students majoring in science or mathematics; power series, complex numbers, determinants and matrices, partial derivatives.
Category 3.

PY - 202 MATHEMATICAL PHYSICS II
Prerequisite: PY - 201.
Continuation of PY 201; vector analysis; Fourier series, ordinary differential equations.
Category 3.

PY - 210 MECHANICS I
Prerequisites: PY - 121, MA - 211, and PY - 201 which may be taken concurrently.
Kinematics and dynamics of point masses, the conservation laws, motion of a system of particles; three lectures and one two-hour laboratory.
Category 2. 4 hours.

PY - 211 MECHANICS II
Prerequisite: PY - 210.
Continuation of PY - 210; continuum mechanics, mechanics of rigid bodies, Lagrange's equations; three lectures and one two-hour laboatory.
Category 2. 4 hours.

PY - 220 THERMODYNAMICS
Prerequisites: PY - 121 or PY - 116 and PY - 201 which may be taken concurrently.
Introduction to thermodynamics

and statistical mechanics.
Category 3.

PY - 230 ELECTRICITY AND MAGNETISM I
Prerequisite: PY - 210 which may be taken concurrently.
The laws of electricity and magnetism in Maxwell's differential form; three lectures and one two-hour laboratory.
Category 2. 4 hours.

PY - 231 ELECTRICITY AND MAGNETISM II
Prerequisite: PY - 230.
Continuation of PY - 230, solution of Laplace's equation, further consideration of Maxwell's equations; three lectures and one two-hour laboratory.
Category 2. 4 hours.

PY - 240 OPTICS
Prerequisites: PY - 116 or PY -121.
Reflection, refraction, difraction, interference and polarization; the wave model of light.
Category 2.

PY - 250 INSTRUMENTATION AND ELECTRICAL MEASUREMENT
Electricity and electrical circuits, electronic theory and instrumentation; transducer response in scientific measurements, control elements and recording devices.
Category 3.

PY - 300 INVESTIGATION OF SPECIAL TOPICS IN PHYSICS
Prerequisite: Consent of Instructor.
Guided study course which offers an opportunity to make an in-depth study of a special topic in physics.
Category 3. 1-3 hours.

PY - 310 MODERN PHYSICS
Prerequisites: One year of physics and one year of calculus.
The atomic nature of matter, special relativity, atomic models, the wave nature of matter, and radioactivity.
Category 2.

PY - 320 QUANTUM MECHANICS
Prerequisite: PY - 231.
The uncertainty principle, wave-particle duality, the Schrodinger equation, probability amplitudes, and applications to one-dimensional problems.
Category 3.

PY - 330 SENIOR PHYSICS LABORATORY
Prerequisite: PY - 231 or consent of instructor.
Laboratory work designed to meet the individual needs of students. One three-hour laboratory period per week.
Category 2.

Graduate Courses

NS/ ED8 - 089 BACK TO BACK BASICS THROUGH AVIATION/ AEROSPACE
Aircraft and space vehicles as learning experiences to teach traditional elementary school subjects. Participants will develop modules, units, and teaching aids.

NS8 - 110 ASTRONOMY IN THE SPACE AGE
Lectures, discussions, and laboratory; the galaxies, cosmogony, and space exploration. 2 hr. lecture, 2 hours lab.

NS8 - 115 ELEMENTARY SPACE SCIENCE
The composition of the earth, the physical laws of space, rocket propulsion, space navigation and human survival. For teachers.

NS8 - 120 MAN'S ENVIRONMENT: THE WORLD OF ENERGY

Interdisciplinary approach to energy as it applies to man's survival. A comprehensive look at the nature of energy as it applies to man's survival. A comprehensive look at the nature of energy, including entropy, atomic energy, new and alternative sources of energy.

NS8 - 125 MAN'S ENVIRONMENT: THE OCEANS

Geography of the sea, physical and chemical properties, the ocean environment, the dynamic integration of land, sea, and air, and the contaminated ocean.

NS8 - 300 COMPUTER APPLICATIONS FOR NATURAL SCIENCE

Survey of useful computer problems including large data base management, simulation techniques and principles of modern operating systems as needed in the engineering and applied world.

NS8 - 400 PHYSICAL SCIENCE METHODS AND TECHNIQUES

Basic procedures and techniques associated with the teaching of science. Open to anyone desirous of obtaining a background in physical science.

NS8 - 404 ENERGY APPLICATIONS AND TECHNIQUES

Energy measurements and techniques for solar collectors. Altitude and azimuth of the sun, radiation characteristics, collector parameters, air and water collectors, and energy storage.

NS8 - 450 ELECTRONIC MEASUREMENTS

A laboratory course in electrical and electronic measurements and instrumentation with theory of electron emissoin, electron tubes, and solid state devices as needed.

NS8 - 500 WORKSHOP IN AVIATION/ AEROSPACE SCIENCE

Direct application of physics, mathematics, earth science, biology, sociology, and other disciplines. Experts will lecture and will direct laboratory experiences.

NS8 - 503 EDUCATION IN FLIGHT

Aviation history, aspects of aerospace, human stresses, and an introduction to commercial aviation. The science of flight, aerodynamics, aircraft nomenclature. An orientation flight will be available.

NS8 - 504 AEROSPACE EDUCATION

Reviews the science of flight; instruction in airframes and engines, navigation and communications, meteorology, and rocketry. Field trips will include airports and aerospace facilities.

NS8 - 577 CASE STUDIES IN ENVIRONMENTAL SCIENCE

Air and water pollution, radiation, thermal pollution, and the possible environmental impact of proposed scientific and technological undertakings.

NS8 - 679 ENERGY AUDITING OF YOUR HOME OR BUSINESS

The step-by-step process of how to conduct an energy audit and apply it to home or business.

NS8 - 852 MODERN TOPICS IN ENVIRONMENTAL SCIENCE

The interdisciplinary nature of physical law as applied to the analysis of man's physical environment. Air and water pollution; weather modification; environmental management and protection; and environmental studies.

NS8 - 879 PROCESS OF SCIENCE WORKSHOP

A laboratory approach to the study of physics, chemical and earth sciences: of elementary school teachers.

NS9 - 150 RESEARCH IN AEROSPACE EDUCATION

Prerequisites: NS8 - 503, NS8 -504 or permission of instructor.

Research in curriculum development at any education level; production of educational aids and activities. 3-6 credits.

NURSING

Undergraduate Courses

NU - 100 HUMANISM IN HEALTH CARE

Perception of health, enlarged from a clinical/illness to a holistic/wellness concept. Four models of health care are explored.
Category 3.

NU - 200 CARING AND PROFESSIONALISM

Introduction to the concept of caring and its application to understanding of self and of others, particularly in relation to providing effective nursing services.
Category 3.

NU - 210 BASIC ELECTROCARDIOGRAPHY

Electrocardiography: the normal heart and basic arhythmias originating in the atrium, atrioventricular junction and ventricles.
Category 3.

NU - 220 CURRENT CONCEPTS IN CANCER NURSING

Nursing care and management of cancer: awareness, screening techniques and early detection, modalities of treatment, quality of life, and rehabilitation.

NU - 230 FAMILY CENTERED NURSING PRACTICE

The impact on families as well as individuals: environments, family factors which contribute to family disruption, nursing intervention to minimize disruption.
Category 3.

NU - 240 BASIC CORONARY CARE FOR NURSES

Cardiovascular nursing: alterations in physiology related to the cardiovascular system; communications with other health team members concerning the needs of the cardiac patient.
Category 3.

NU - 300 GROUP COMMUNICATION SEMINAR I

Prerequisite: Consent of department.

Group process through interacting with peers; group structure and function. Students will identify their personal and professional goals.
Category 1. 1 hour.

NU - 310 COMMUNITY HEALTH NURSING

Prerequisite: Consent of department.

The nursing process in the care of client-families in a non-hospital setting. The student's own professional development is explored.
Category 1. 8 hours.

NU - 320 NURSING THEORY

Prerequisite: Consent of department.

Making the transition from a technical to a professional practitioner; the role of science and theory building in relation to the developing science of nursing; theories of nursing.
Category 1.

NU - 400 GROUP COMMUNICATION SEMINAR II

Prerequisites: NU - 300, NU - 310, NU - 320.

The independent and interdependent functions of various health care providers as they relate to nursing; discussion of personal and group experiences in nursing practice.
Category I.1 hour.

NU - 410 NURSING IN PRIMARY CARE

Prerequisites: NU - 300, NU - 310, NU - 320.

Provides an opportunity for students to analyze previous learning while further expanding their roles in the delivery of primary health care.
Category 1. 9 hours.

NU - 420 RESEARCH SEMINAR

Prerequisites: NU - 300, NU - 310, NU - 320, NU - 400.

Students work individually and in small groups investigating nursing practice problems related to the interaction between the nurse and the client.
Category 1. 4 hours.

NU - 430 GROUP COMMUNICATION SEMINAR III

Prerequisites: NU - 300, NU - 310, NU - 320, NU - 400; NU - 410, NU -420.

The role of the professional nurse in decision-making relating to delivery of health care.
Category 1.1 hour.

NU - 440 CONTEMPORARY NURSING PRACTICE

Prerequisites: NU - 300, NU - 310, NU - 320,NU - 400, NU - 410, NU -420.

Provides an opportunity for students to demonstrate synthesis of previous learnings while further expanding their roles in the health care delivery system.
Category 1. 8 hours.

NU - 450 LEADERSHIP IN NURSING

Prerequistes: NU - 300, NU - 310, NU - 320, NU - 400, NU - 410, NU -420.

The leadership and management roles of various members of the health-care team.
Category I.

Graduate Courses

NU8 -200 THE NURSE AND THE LAW

Legal problems: malpractice, abortions, and employee-employer relationships. How the nurse can handle such situations in order to care for the patient and also comply with the law.

PHILOSOPHY

Undergraduate Courses

PH - 100 INTRODUCTION TO PHILOSOPHY

The fundamentals of philosophy: its vocabulary, problems, and methods.
Category 1.

PH - 110 INTRODUCTION TO LOGIC

The basic principles of rational argumentation and critical thinking.
Category 1.

PH - 120 HISTORY OF WESTERN PHILOSOPHY

The development of philosophy in the Western world from the ancient Greeks to the twentieth century.
Category 1.

PH - 130 ETHICS: HUMAN CONDUCT AND VALUES

The Mature of Mortality and value and their place in the world of human action.
Category 1.

PH - 140 PHILOSOPHY OF SCIENCE, NATURE, AND MAN

A philosphical examination of the relation between man and the world as exemplified in science.
Category 1.

PH - 200 PHILOSOPHY OF BEING, KNOWLEDGE AND GOD

A critical evaluation of answers to the most general questions of human existence: What is there? How do we know it? How did it come to be?
Category 2.

PH - 210 EXISTENTIALISM AND CONTEMPORARY PHILOSOPHY

An in-depth study of the continental tradition in philosophy.
Category 2.

PH - 220 HISTORY OF AMERICAN PHILOSOPHY

A general overview of the American contribution to the development of Western philosophy.
Category 2.

PH - 230 RELIGIOUS PHILOSOPHIES, EAST & WEST

An examination of the major religious systems, both oriental and occidental.
Category 2.

PH - 300 PHILOSOPHY OF HISTORY

Prerequisite: One semester of philosophy.

A study of the meaning and value of history for human life.
Category 3.

PH - 310 PHILOSOPHY OF ART

Prerequisite: One semester of philosophy.

An investigation of the nature of aesthetic experience.
Category 3.

PH - 320 PHILOSOPHY OF EDUCATION

Prerequisite: One semester of philosophy.

A philosophical critique of current educational practices in light of the generally accepted purposes of education.
Category 3.

PH - 330 PHILOSOPHY, HUMAN POTENTIALITY, AND CONSCIOUSNESS

Prerequisite: One semester of philosophy.

The application of philosophical knowledge to the problems of creative self-actualization and consciousness.
Category 3.

PH - 400 SEMINAR: TOPICS IN PHILOSOPHY

Prerequisite: One semester of philosophy.

Specific subject matter chosen by the department in conjunction with student need and demand.
Category 3.

PH - 410 INDEPENDENT STUDY IN PHILOSOPHY

Prerequisites: Consent of Department & instructor.

Tutorials in areas of philosophy not covered in normal course offerings.
Category 3. 1-3 hours.

Graduate Courses

PH8 - 200 MORALITY AND HUMAN ACTS: CASE STUDIES

A detailed study of the application of moral principles in such key areas of human endeavor as politics, law, medicine, and business.

PH8 - 215 PHILOSOPHICAL FOUNDATIONS OF PSYCHOLOGY

A discussion of the philosophical problems which gave rise to the study of psychological phenomena, and what relevance such problems have to contemporary psychology.

PH8 - 220 PHILOSOPHY OF LAW

An analysis of the structure and applications of legal systems insofar as they relate to philosophical questions concerning such concepts as responsibility, punishment, and liberty.

PH8 - 225 POLITICAL AND SOCIAL PHILOSOPHY

A study of the philosophical problems associated with the attempt to understand the relationship between individuals and the larger social/political groups to which they belong.

PH8 - 245 AESTHETICS: PHILOSOPHY OF HUMAN CREATIVITY

An investigation of aesthetic experience, artistic creativity, and the nature of art objects.

PH8 - 250 TECHNOLOGY, SCIENCE, AND NATURE: A PHILOSOPHICAL ANALYSIS

An inquiry into the conceptual foundations and methods of the natural sciences as well as the applications of scientific discoveries to technological problems.

PH8 - 260 PHILOSOPHY OF RELIGION

An examination of the central problems of religion: the relation of faith to reason, the question of God's existence, and the reality of evil.

PH8 - 270 PHILOSOPHY, HUMAN POTENTIALITY, AND CREATIVE CONSCIOUSNESS

An exploration of existential-humanistic, mystical, and pragmatic philosophies and their relevance to the problems of human fulfillment and creative being.

PHYSICAL EDUCATION

Undergraduate Courses

PE - 100 PHYSICAL EDUCATION ACTIVITY COURSES

Activities include: Archery, Badminton, Basketball, Candlepin Bowling, Dance(Aerobic, Ballroom, Folk, Square, Tap), Fitness and Weight Control, Flag Football, Floor Hockey, Golf, Gymnastics, Hiking, Ice Skating, Racquetball, Relaxation, Sailing, Soccer, Softball, Swimming, Team Handball, Tennis; Volleyball, Weight Training, and Yoga.
Category 1. 1 credit.

PE - 160 CONTEMPORARY CONCEPTS IN PHYSICAL EDUCATION

Investigatory approach to contemporary physical education, including a critical overview of philosophy, objectives and curriculum development.
Category 2.

PE - 175 PRINCIPLES OF COACHING

The values, relationships, and skills necessary to coach children and young adults in competitive athletics.
Category 2.

PE/ SO - 190 SPORT AND SOCIETY

Analysis of sport as a social system; the implications of sport within interrelational contexts with other social systems.
Category 2.

PE - 200 COACHING FOOTBALL

The techniques in developing an offense and defense. Procedures in scouting opponents and developing game plans are explained.
Category 2.

PE - 205 COACHING TEAM SPORTS FOR MEN

The techniques and strategies of coaching basketball and baseball.
Category 2.

PE - 210 COACHING TEAM SPORTS FOR WOMEN

Techniques and strategies of coaching selected sports. Team selection, conditioning and game situations will be discussed.
Category 2.

PE - 215 COACHING TENNIS

Selecting, training, strategy and teaching techniques in developing a tennis program.
Category 1. 1 hour.

PE - 216 COACHING SWIMMING

Analysis of swimming stroke and the teaching techniques in developing a swimming program.
Category 1. 1 hour.

PE - 217 COACHING TRACK AND FIELD

The conditioning, selecting, training, strategies and event selection of the various track and field events.
Category 1. 1 hour.

PE - 218 COACHING GOLF

The selection, training and strategy of golf on an individual and team basis.
Category 1. 1 hour.

PE - 220 TECHNIQUES OF OFFICIATING BASKETBALL

Preparation for local board examination and field test.
Category 1. 2 hours.

PE - 221 TECHNIQUES OF OFFICIATING FIELD HOCKEY

Preparation for U.S.F.H.A. national examination and field test.
Category 1. 2 hours.

PE - 222 TECHNIQUES OF OFFICIATING VOLLEYBALL

Preparation for U.S.V.B.A. national examination and field test.
Category 1. 1 hour.

PE - 225 FUNDAMENTALS OF ATHLETIC TRAINING

The prevention and treatment of all types of athletic injuries. Anatomy, injury recognition, physiology, and taping are included.
Category 2.

PE - 230 MECHANICAL ANALYSIS OF MOTOR ACTIVITIES

A proper utilization of scientific principles is essential. Laws of physics, motion, mathematics, psychology, and physiology are applied to specific sports.
Category 2.

PE - 235 INTRAMURAL ATHLETICS

Planning and implementing intramurals in schools, selecting teams, tournaments, scheduling, officiating, financing and promoting the program.
Category 2.

PE - 240 ATHLETIC PROGRAMS

Financing, scheduling, awards, facilities, game administration and evaluating boys,and girls,sports in high school.
Category 1.

PE - 245 RECREATIONAL PROGRAMS

Planning, promoting, conducting, financing and evaluating sports, social, cultural and special events in public and private recreation programs.
Category 1.

PE - 250 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL

Methods and techniques of teaching elementary physical education; emphasis on games, gymnastics, dance and physical fitness.
Category 1.

PE - 255 MOVEMENT EDUCATION

Creative, individualized, problem solving approach to teaching physical education, utilizing the elements of movement and body awareness.
Category 1.

PE - 270 PHYSICAL EDUCATION/ RECREATION FOR SPECIAL POPULATIONS

Prerequisites: PE - 250, PE - 255 or permission of the instructor.

Focus on the movement-related needs, interests and abilities of the disabled and adapting physical activities to meet individual needs.
Category 2.

HE/ PE - 275 FITNESS FOR LIFE

Knowledge of health-related fitness components and their effect on total wellness; emphasis on developing personalized fitness programs, namely cardiovascular endurance.
Category 1.

HE/ PE - 280 INDIVIDUALIZED STRESS MANAGMENT AND RELAXATION

Knowledge of the causes, symptoms and related disorders of stress; emphasis on techniques of coping including relaxation.
Category 1.

PE - 290 ADVANCED LIFE SAVING

Rescue and water safety; emphasis on self rescue skills and skill in rescuing or assisting persons in danger of drowning.
Category 1.

PE - 292 WATER SAFETY, INSTRUCTOR

Prerequisites: Current ARC-Advanced Life Saving Certificate (and either a ARC Swimmers Certificate or ability to perform such skills).

Detailed study of swimming and life-saving skills; emphasis on the development of teaching techniques.
Category 1. 2 hours.

PE - 294 ADAPTED AQUATICS

Prerequisites: Water Safety Instructor, Certificate or permission of instructor.

Symptoms and characteristics of the disabled and their limiting effect in aquatics; emphasis on adapting strokes to the individual.
Category 1. 2 hours.

PE - 400 INDEPENDENT STUDY IN PHYSICAL EDUCATION/ COACHING

Prerequisite: Permission of department.

Opportunity to engage in research in an area of special interest not covered in elective course offerings.
Category 1.

PE - 410 FIELD EXPERIENCE IN PHYSICAL EDUCATION/ COACHING

Prerequisite: Permission of department.

A fifty-hour directed experience in organizing and conducting either physical education or coaching activities at the elementary or secondary level.
Category 2. 2 hours.

Graduate Courses

PE8 - 210 COACHING TECHNIQUES

Teaching and learning guidelines, utilizing psychology in coaching, techniques in handling the individual competitor, and team sport problems.

PE8 - 220 TECHNIQUES OF TEACHING TEAM SPORTS

The coaching of specific sports on various grade levels are covered. Teaching techniques, strategies, and essential fundamentals.

PE8 - 230 SCIENTIFIC PRINCIPLES OF COACHING

The principles and mechanics of motion are applied to a variety of physical activities to improve performance without wasted energy and effort.

PE8 - 240 TECHNIQUES OF ATHLETIC TRAINING

Designed for the coach who must perform training duties.

HE/ PE8 - 250 STRESS MANAGEMENT

Assessment of personal stressors, causes and symptoms of stress and related disorders; emphasis on intervention and management techniques.

PE8 - 260 FIELD TECHNIQUES IN COACHING FOOTBALL

Teaching the skills and techniques of each position in developing the 52 defense and the pro offense.

PSYCHOLOGY

Undergraduate Courses

PS - 110 GENERAL PSYCHOLOGY I

The history of psychology; scientific method; brain and nervous system; developmental psychology; learning; motivation and perception.
Category 1.

PS - 111 GENERAL PSYCHOLOGY II

Personality theory; psychopathology; psychotherapy; cognition; social behavior; and careers in psychology.
Category 1.

PS - 200 HISTORY AND SYSTEMS OF PSYCHOLOGY

Prerequisites: PS - 110, PS - 111.

An historical perspective on psychology, tracing the development of psychology into a science.
Category 1.

PS - 210 CHILD GROWTH AND DEVELOPMENT

Prerequisite: PS - 110.

Physical, social, emotional, intellectual and moral development from conception to adolescence is examined within a framework of various theories.
Category 1.

PS - 212 CHILD PSYCHOLOGY

Prerequisite: PS - 110.

A critical review of the major theories and research in the field of child psychology, emphasizing contemporary viewpoints and problems.
Category 3.

PS - 215 PSYCHOLOGY OF ADOLESCENCE

Prerequisite: PS - 110.

The mental, emotional, social and physical changes of contemporary adolescence are examined with emphasis on family, peer and school influences.
Category 1.

PS - 220 PSYCHOLOGY OF AGING

Prerequisite: PS - 110.

Adulthood and old age are studied with special emphasis on current developmental theories.
Category 1.

PS - 225 PSYCHOLOGY OF LEARNING

Prerequisite: PS - 110.

Learning is a fundamental concept in understanding behavior; examines principles and theories of learning, emphasizing experimental findings.
Category I.

PS - 230 PSYCHOLOGY OF ADJUSTMENT

Prerequisite: PS - 110.

Basic principals of personality development and mental health are introduced. Factors contributing to adjustive behavior and stress management are considered.
Category 3.

PS - 240 ABNORMAL PSYCHOLOGY

Prerequisite: PS - 111.

Etiology, dynamics and treatment of psychopathology and their relation to normal personality are considered from traditional and contemporary perspectives.
Category I.

PS - 250 SOCIAL PSYCHOLOGY

The psychological dynamics of social interaction including verbal and nonverbal communication, group dynamics and attitude formation and change.
Category 1.

PS - 260 PSYCHOLOGY OF HUMAN SEXUALITY

Prerequisite: PS - 110.

Sexuality is a foundation of personality. The wide range of human sexuality is explored: sexual development, roles, attitudes and behaviors.
Category 2.

PS - 265 PSYCHOLOGY OF MARRIAGE

Prerequisite: PS - 111.

Marriage and alternatives are explored, focusing on personal growth, partner selection, loving styles, communication, sex, crises and termination of relationships.
Category 3.

PS - 280 SENSATION AND PERCEPTION

Prerequisite: PS - 110.

Selected sensory and perceptual processes are studied in the context of current theory and research.
Category 3.

PS - 285 MOTIVATION

Prerequisite: PS - 110.

A study of conditions that arouse, sustain and direct behavior. Topics include frustration, conflict, stress, instinct and emotions.
Category 3.

PS - 300 PSYCHOLOGICAL STATISTICS

Prerequisites: Junior or senior status or permission of instructor.

Data tabulation; graphing; measurement of central tendency, variability, and correlation; and hypothesis testing applied to psychological data.
Category 1.

PS - 305 PSYCHOLOGICAL METHODS

Prerequisites: PS - 300, junior or senior status or permission of instructor.

The design, conduct, analysis and reporting of research are stressed. A broad range of laboratory experiments and demonstrations are conducted.
Category 1.

PS - 310 INTRODUCTION TO THE STUDY OF EXCEPTIONAL CHILDREN

Prerequisites: PS - 110, PS 111.

Characteristics and needs of children with exceptionalities: retardation, giftedness, physical or sensory disabilities, emotional or social maladjustments.
Category 3.

PS - 312 PSYCHOLOGY OF SUBNORMAL AND UNADJUSTED CHILDREN

Prerequisites: PS - 110, PS - 111.

The psychology and treatment of children having inferior intellectual ability and/or social or emotional adjustment problems.
Category 2.

PS - 315 PSYCHOLOGY OF THE CULTURALLY DEPRIVED

Prerequisites: PS - 110, PS - 111.

Investigation of problems of identifying culturally-deprived children, determining individual needs and responding appropriately to their needs.
Category 3.

PS - 330 THEORIES OF PERSONALITY

Prerequisites: PS - 110, PS - 111.

A survey of major theories of personality. Why people behave as they do is explored through the different theories.
Category 1.

PS - 340 INTRODUCTION TO PSYCHOMETRICS

Prerequisites: PS - 110, PS - 111.

Methods and instruments which are used in the evaluation of the psychological attributes of

human beings are studied
Category 1.

PS - 350 GROUP DYNAMICS
Prerequisite: PS - 110.
Group process deals with the basic issues of leadership, membership, developmental stages and types of groups, theoretically and experientially.
Category 2.

PS - 360 INDUSTRIAL PSYCHOLOGY
Prerequisite: PS - 110.
A concentration on the work of the psychologist in business and industry in the public and private sectors.
Category 2.

PS - 380 PHYSIOLOGICAL PSYCHOLOGY
Prerequisites: PS - 110, PS - 111.
Psychobiological problems: current physiological research in emotion, motivation, and learning, and the use of physiological methods in psychology.
Category 3.

PS - 400 INTERNSHIP IN PSYCHOLOGY
Prerequisites: Senior status and permission of the instructor.
Student interns work part-time in cooperating local agencies under joint supervision of the department and agency officials.
Category 3. 1-3 hours.

PS - 405 INDEPENDENT STUDY IN PSYCHOLOGY
Prerequisites: PS - 110, PS - 111, PS - 200, PS - 300, PS - 305 and permission of the instructor.
Student will pursue an area of special interest through research or field work under close supervision of a faculty member.
Category 3. 1-3 hours.

PS - 410 SEMINAR IN DEVELOPMENTAL PSYCHOLOGY
Prerequisites: PS - 110, PS - 111, PS - 210, PS - 215.
Patterns of physical, mental and emotional development are explored with emphasis on independent work.
Category 3.

PS - 430 ENCOUNTER: THEORY AND PRACTICE
Prerequisites: PS - 110, PS - 111 and permission of instructor.
A basic encounter group experience;emphasizing increased personal and interpersonal sensitivity; assigned readings, journal writing and analysis.
Category 1.

PS - 435 CLINICAL PSYCHOLOGY
Prerequisites: PS - 110, PS - 111, PS - 240.
Practical issues methods and techniques of current psychotherapies with emphasis on psychonanalytic, client-centered and behavioral approaches.
Category 3.

PS - 440 INDIVIDUAL AND GROUP PSYCHOTHERAPY
Prerequisites: PS - 110, PS - 111.
Theoretical and eclectic approaches to individual and group psychotherapy are studied.
Category 3.

PS - 450 EXISTENTIAL HUMANISTIC PSYCHOLOGY
Prerequisites: PS - 110, PS - 111, permission of instructor.
Orientation to the existential humanistic theories of psychology, phenomenological approaches to behavior, personality and psychotherapy.
Category 3.

PS - 480 ADVANCED EXPERIMENTAL PSYCHOLOGY
Prerequisites: PS - 110, PS - 111, PS - 300.
Laboratory procedures and

techniques are studied on an advanced level applied to selected independent projects.
Category 3.

PS - 495 SPECIAL TOPICS IN PSYCHOLOGY
Prerequisites: PS - 110, PS - 111 and department approval.
Selected areas of mutual interest to instructor and students. Topics and prerequisites are announced in advance.
Category 1.

Graduate Courses

PS8 - 220 HUMAN GROWTH & DEVELOPMENT
The life span of the person is examined through the developmental processes of growth, sexuality, learning, creativity, and organization.

PS8 - 230 PSYCHOLOGY OF ADJUSTMENT
Adjustive behavior and personality are scrutinized on theoretical and experiential levels utilizing techniques such as role-playing and psychodrama.

PS8 - 240 INTRODUCTION TO CLINICAL AND COUNSELING PSYCHOLOGY
Theories, methods and techniques used in the clinical and counseling processes are surveyed.

PS8 - 325 PSYCHOLOGY OF LEARNING
An in-depth analysis of learning operations, major learning theories, and applications of learning principles to human behavior.

PS8 - 340 ADVANCED ABNORMAL PSYCHOLOGY
Prerequisites: PS - 110, PS - 111.
The etiology, dynamics and treatment of psychopathology are studied through lecture, discussion and independent reading and research.

PS8 - 410 DYNAMICS AND ETIOLOGY OF THE EMOTIONALLY DISTURBED CHILD
Prerequisites: PS - 110, PS - 111.
Theory and research on behavior disorders of children are examined in detail with emphasis on causes, evaluation and treatment.

PS8 - 425 PRINCIPLES OF BEHAVIOR
The history and basic concepts of behavior modification are introduced.

PS8 - 535 CLINICAL PSYCHOLOGY
Study of traditional and innovative approaches to psychotherapy and counseling.

PS8 - 715 SPECIAL CLASS METHODS
Curriculum development and teaching techniques for special classes.

PS8 - 725 BEHAVIOR MODIFICATION IN THE SCHOOLS
Students learn to apply behavior modification techniques to a wide range of problems of school children and to assess results.

PS8 - 860 CONTEMPORARY PROBLEMS AND ISSUES IN INDUSTRIAL PSYCHOLOGY
Psychological implications of, and possible solutions to, contemporary scientific, legal, and economic problems of business.
Category 2.

PS9 - 495 THE ILLINOIS TEST OF PSYCHOLINGUISTIC ABILITIES

The rationale, administration, and interpretation of the Illinois Test of Psycholinguistic Abilities.

PS9 - 540 PSYCHO-EDUCATIONAL PRESCRIPTIONS

Prerequisite: Minimum of 15 hours graduate credit completed.

Students engage in supervised practice in psychological and eduational assessment and development of psychological and/or educational prescriptions.

PS9 - 590 ISSUES IN SCHOOL PSYCHOLOGY

Emphasis on the legal and professional responsibilities of school psychologists. Special techniques of testing, and evaluation are considered.

PS9 - 980 PRACTICUM IN SCHOOL PSYCHOLOGY I

Prerequisites: Students enrolled in M.Ed./CAGS in School Psychology who have completed 42 credit hours.

Students work 300 clock hours under supervision of a certified practicing school psychologist in K-12 settings; weekly seminars.

PS9 - 985 PRACTICUM IN SCHOOL PSYCHOLOGY II

Prerequisite: Practicum in School Psychology I.

Students work 300 clock hours under qualified psychological supervision in a school, hospital or clinic; weekly seminars.

SOCIOLOGY

Undergraduate Courses

SO - 100 INTRODUCTION TO SOCIOLOGY

The nature of group behavior and social interaction viewed through analysis of the structure, norms, and values of human groups.
Category 1.

SO - 110 CULTURAL ANTHROPOLOGY

Cross-cultural analysis of the human capacity for adaptation and technological and ideological development. Significant field studies will be examined.
Category 1.

SO - 120 COURTSHIP AND MARRIAGE

American customs of courtship and marriage, past and present; marital law, and analysis of mate selection and marital roles.
Category 1.

SO - 130 RACE AND ETHNICITY

Dynamic processes and patterns of inter-group relations with special emphasis on socially perceived racial and ethnic variables.
Category 3.

SO/ PE - 190 SPORT AND SOCIETY

Analysis of sport as a social system. The implication of sport within interrelational contexts with other social systems.
Category 1.

SO - 200 CONTEMPORARY SOCIAL PROBLEMS

Prerequisites: SO - 100 or SO -110.

Analysis of social, political, urban, and industrial changes

which have introduced specific problems into contemporary society.
Category 1.

SO - 210 SOCIETY, SCIENCE, AND TECHNOLOGY
Prerequisites: SO - 100 or SO -110.
Relationships and patterns of social issues created by the nature of scientific and technological advances.
Category 3.

SO - 220 SOCIOLOGY OF THE FAMILY
Prerequisites: SO - 100 or SO -110.
A comparative approach to the study of the structure of family systems with emphasis on changing patterns of family life.
Category 3.

SO - 230 POLITICAL SOCIOLOGY
Prerequisites: SO - 100 or SO -110.
Foundations of social movements in political phenomena, social conditions and emerging political institutions; the structural basis of social change and politics.
Category 3.

SO - 240 SOCIOLOGY OF EDUCATION
Prerequisites: SO - 100 or SO -110.
Study of American education, emphasizing the social, political, and economic factors that influence it, as well as its institutional structure.
Category 3.

SO - 250 SOCIOLOGY OF RELIGION
Prerequisites: SO - 100 or SO -110.
Comparative study of systems of belief and religious institutions with emphasis on natural and mystical components of religious phenomena.
Category 3.

SO - 270 SOCIAL THEORY I
Prerequisites: SO - 100 or SO -110.
Fundamental concepts and intellectual traditions, especially the contributions of Comte, Spencer, Marx, Toennes, Durkheim, and Simmel.
Category 3.

SO - 280 RESEARCH METHODS OF SOCIOLOGY
Prerequisites: SO - 100 or SO -110.
An analysis of the research function in Sociology, the conduct of reserach appropriate to undergraduate students, and the formal presentation of research papers.
Category 1.

SO - 300 SOCIAL CHANGE
Prerequisites: Two courses at 200 level.
Causes, characteristics, and consequences of change in the established patterns of interaction and behavior in society.
Category 3.

SO - 310 FORMAL ORGANIZATIONS
Prerequisites: Two courses at 200 level.
The structure and function of, and communications systems within, formal and complex organizations. Primary focus on theoretical aspects of organizations.
Category 3.

SO - 320 MEDICAL SOCIOLOGY
Prerequisites: Two courses at 200 level.
The structure of health care delivery systems and role interaction between levels of health care personnel, patients, and families of patients.
Category 3.

SO - 325 SOCIOLOGY OF MENTAL HEALTH
Prerequisite: SO - 320 or permission of instructor.
The social definition of mental illness which contributes to social disorder, and its treatment and prevention.
Category 3.

SO - 330 CRIMINOLOGY
Prerequisite: Two courses at 200 level or permission of instructor.
Theoretical perspective on crime, criminals, and the social aspects of interrelationships within, and between, the components of the criminal justice system.
Category 3.

SO - 335 JUVENILE DELINQUENCY
Prerequisite: Two courses at 200 level or permission of instructor.
Social and legal phenomena surrounding youthful offenses and offenders, considered in the context of community response to the problem.
Category 3.

SO - 305 URBAN SOCIOLOGY
Prerequisite: Two courses at 200 level or permission of instructor.
A cross-cultural study of urban social systems and thephenomena and problems connected with the planning process.
Category 3.

SO - 315 COLLECTIVE BEHAVIOR
Prerequisite: Two courses at 200 level or permission of instructor.
Processes by which new norms and forms of social organization emerge from group behavior, aggregate behavior, and social movements.
Category 3.

SO - 340 SOCIAL PSYCHOLOGY
Prerequisite: Two courses at 200 level or permission of instructor.
Dynamics of small group involvement and other environmental influences on the shaping of an individual's personality.
Category 3.

SO - 370 SOCIAL THEORY II
Prerequisite: SO - 270, Two courses at 200 level (or permission of instructor).
The development of conflict theory with emphasis on the contributing theorists of the behavioristic schools.
Category 3.

SO - 375 CONTEMPORARY SOCIAL THEORY
Prerequisites: SO - 270, Two courses at 200 level or SO - 370.
Analytical devices, conceptual schemes, and models used by contemporary theorists with emphasis on structural sociology.
Category 3.

SO - 380 SOCIOLOGICAL STATISTICS
Prerequisites: SO - 280, Two courses at 200 level, or permission of instructor.
Data tabulation and reduction, measures of central tendency, variability, correlation, prediction, and association. (PS - 300 may be substituted).
Category 3.

SO - 400 INDEPENDENT STUDY
Prerequisite: Eight prior courses in Sociology.
For advanced Sociology majors only, topic to be approved by an independent study advisor.
Category 3. 1-3 hours.

SO - 410 FIELD WORK
Prerequisite: Eight prior courses in Sociology.
Data collection based on participant observation within a social service orientation. Assignment approval by field-work advisor.
Category 3. 1-6 hours.

SO - 420 SEMINAR IN SOCIOLOGY

Prerequisite: Permission of instructor.

Advanced study topics in selected areas of sociology; announcement made at preregistration time.
Category 3.1-3 hours.

Graduate Courses

SO8 - 410 SOCIOLOGY OF DEATH

Theories and studies of grief and bereavement; problems of terminal patients; death denial styles of mourning; sociology of the mortuary attitudes and comparative studies of death.

SO8 - 425 SEMINAR IN SOCIOLOGY: CRISIS IN THE AMERICAN FAMILY: SEPARATION AND DIVORCE

Considers the questions of separation and divorce from a socio-methodological approach. Literature in the field will be examined in terms of trends and the problems encountered by participants in those proceedings.

SO8 - 430 SEMINAR IN SOCIOLOGY: CRISIS IN THE AMERICAN FAMILY: VIOLENCE-THE BATTERED CHILD AND THE BATTERED WIFE

Two vital problems of American family life: the battered child and the battered wife. Contemporary writings both scholarly and popular will be used.

SO8 - 435 SEMINAR IN SOCIOLOGY: THE SEXUAL REVOLUTION

Prerequisite: Permission of instructor required.

Will examine the changing sexual norms of American society through an examination of changes in the legal definitions of obscenity, pornography, consenting adults, cohabitation, etc.

SO8 - 450 SOCIOLOGY OF RELIGION

Intensive analysis of belief systems and formal organizations which have developed from man's search through natural and mystical phenomena for the meaning of life.

SO8 - 460 APPLICATION OF SOCIAL PSYCHOLOGY

The dynamics of groups. Emphasis focuses on the individual but within the context of sociological influences. Consideration is given to interpersonal relations, socialization, and symbolic interaction.

SO8 - 470 SEMINAR IN RESEARCH METHODS

Prerequisite: SO7 - 100.

Designed to prepare students for undertaking research projects; research methodology and presentation of data; field problems used.

URBAN STUDIES

Undergraduate Courses

UR - 101 INTRODUCTION TO URBAN SYSTEMS

A broad contextual overview of urban life that examines from a systems perspective the relationship of man and his environment.
Category 1.

UR - 102 SELF-ASSESSMENT AND CAREER AWARENESS

Self-assessment techniques, decision-making skills, career research and life-planning skills are utilized in the development of an individual's career goals.
Category 1.

UR - 201 ANALYSIS OF URBAN SYSTEMS

Prerequisites: UR - 101 or permission of instructor.

Analysis of activities, programs, and policies designed to sustain and enhance the livability of individuals in an urban environment.
Category 1.

UR - 212 AMERICAN METROPOLITAN EVOLUTION

Prerequisites: UR - 101 or permission of instructor.

Development of metropolitan America from a multi-disciplinary approach with emphasis upon dynamics of urban growth, internal development of cities, immigrations, socio-economic stratification, metropolitanization, and problems deriving from growth.
Category 2.

UR - 213 HUMAN IDENTITY AND THE URBAN ENVIRONMENT

Prerequisites: UR - 101 or permission of instructor.

Study of factors affecting identity in contemporary urban settings including race, ethnicity, class, age, and sex categories and roles.
Category I.

UR - 301 CITIES AND SUBURBS

Prerequisites: UR - 101 or permission of instructor.

Multi-disciplinary study of city-suburban growth patterns and problems both of the past and those that hamper metropolitan cooperation and affect the quality of life of both city and suburban residents and businesses.
Category 1.

UR - 305 GROUP CONFLICT IN THE URBAN COMMUNITY

Prerequisites: UR - 101 or permission of instructor.

Study of conflict and its resolution in contemporary urban settings. Personal, small group, and societal strategies for conflict resolution will be explored.
Category 2.

UR - 306 INTERVIEWING AND COUNSELING TECHNIQUES

Prerequisite: Permission of instructor.

Investigation of skills and process of interviewing and counseling with emphasis upon both theory and practice, participant exercises and development of helping skills and effective counseling relationships.
Category 1.

UR - 310 POWER, POLITICS, AND DECISION-MAKING IN URBAN COMMUNITIES

Prerequisites: UR - 101 or permission of instructor.

Exploration from muti-disciplinary approach of social power and its relation to decision-making in urban communities. Emphasis on theories of power, understanding research methodologies and policy implications.
Category 1.

UR - 311 COMMUNITY POLITICS AND POLICIES

Prerequisites: UR - 101 or permission of instructor.

Political behavior and perceptions in cities and towns from a multidisciplinary perspective with emphasis on how policy is initiated, developed, and implemented in various governmental forms.
Category 1.

UR - 320 HUMAN NEEDS AND SOCIAL SERVICES

Prerequisites: UR - 101 or permission of instructor.

Analysis of human needs as they change over a life span; why needs go unmet, and the role of human services in meeting needs.
Category 1.

UR - 321 SOCIAL WORK IN THE URBAN SOCIETY

Prerequisites: UR - 101 or permission of instructor.

Overview of approaches used by social work professionals in assessing and meeting needs, including case work, community organization, and planning.
Category 1.

UR - 325 SOCIAL CASEWORK IN THE URBAN SETTING

Prerequisites: UR - 101 or permission of instructor.

Introduction to various social work approaches; client-centered, task-centered, gestalt, Carhuff, reality therapy, role playing and counseling simulations utilized.
Category 1.

UR - 326 CAREER PLANNING IN URBAN SOCIETY

Prerequisites: UR - 101 or permission of instructor.

Research of the urban employment market, occupational sources, basic interviewing techniques, developing a job brief, and elaboration of a career plan.
Category 1.

UR - 330 JUSTICE IN THE URBAN SOCIETY

Prerequisites: UR - 101 or permission of instructor.

Theoretical perspectives on the mission of the criminal justice systems and the daily operation of its sub-components.
Category 1.

UR - 331 CRIME AND THE CITY

Prerequisites: UR - 101 or permission of instructor.

Investigation of crime in contemporary urban society and the social, legal, economic, and cultural strategies for dealing with crime and deviance.
Category 1.

UR - 340 URBAN HOUSING DILEMMA

Prerequisites: UR - 101 or permission of instructor.

Analysis of the factors that shape the nature, location, and supply of urban housing with special focus on federal policies and the housing needs of elders.
Category 3.

UR - 341 URBAN HEALTH AND SOCIAL SERVICES SYSTEMS

Prerequisites: UR - 101 or permission of instructor.

Analysis of health-care planning and delivery systems emphasizing the role of services within

these systems and the health needs of elder citizens.
Category 1.

UR - 350 URBAN YOUTH IN AMERICAN SOCIETY
Prerequisites: UR - 101 or permission of instructor.
Role and problems of youth in urban societies viewed from a variety of social science perspectives with additional employment of contemporary music and literature.
Category 1.

UR - 351 PUBLIC POLICY AND YOUTH SERVICES
Prerequisites: UR - 101 or permission of instructor.
Role of theory, attitudes, and public opinion in the formation of policies concerning delinquency with exploration of current practices and innovative strategies.
Category 1.

UR - 360 ENVIRONMENTAL SYSTEMS AND PUBLIC POLICY
Prerequisites: UR - 101 or permission of instructor.
Examination of urban ecosystems, focusing on land uses designed to effectively utilize water, open space, and other natural resources.
Category 1.

UR - 361 PUBLIC POLICY AND ENVIRONMENTAL ISSUES
Prerequisites: UR - 101 or permission of instructor.
Investigation of the factors that determine the formation of public policy on the environment with consideration of the roles played by state and federal regulatory agencies.
Category 1.

UR - 370 STRUCTURE AND FUNCTION OF URBAN ORGANIZATIONS
Prerequisites: UR - 101 or permission of instructor.
Advanced leadership seminar for students interested in pursuing management careers in public and non-profit urban organizations.
Category I.

UR - 401 RESEARCH SEMINAR IN URBAN STUDIES
Prerequisites: UR - 101 or permission of instructor.
Research skills for urban-based projects including techniques in gathering, analyzing, and reporting data and various forms of field research.
Category 1.

UR - 411 ASSIGNED READINGS IN URBAN AFFAIRS
Prerequisites: UR - 101 or permission of instructor.
Directed readings for students interested in special topics related to their academic program of study.
Category 3.

UR - 421 SELECTED TOPICS IN URBAN STUDIES
Prerequisites: UR - 101 or permission of instructor.
In-depth examination of topical issues challenging the intellectual and creative interests of advanced students in urban studies.
Category 3.

UR - 430 SEMINAR IN CURRENT URBAN PROBLEMS
Prerequisites: UR - 101 or permission of instructor.
Individual and group investigation and research of selected and current urban problems.
Category 1.

UR - 440 PRACTICUM IN URBAN STUDIES

Prerequisites: UR - 101 or permission of instructor.

Directed experietial study for advanced students.
Category 3.

UR - 450 INTERNSHIP IN URBAN STUDIES

Prerequisites: Completion of 21 credits in Urban Studies and permission of instructor.

Supervised and intensive semester-long experience in community agencies: weekly group seminar.
Category 1.

Graduate Courses

UR8 - 100 KNOWING THE CITY

Introduction to significant social science theory and models that seek to explain urban growth dynamics and various aspects of urbanization.

UR8 - 203 THE URBAN EXPERIENCE

Exploration of the varieties of the urban experience from a multidisciplinary approach seeking to identify positive and negative consequences of urban life.

UR8 - 300 THE CITY AND ITS PEOPLE

Themes and topics in American urban growth with special emphasis on the Industrial Revolution and migrations together with internal urban dynamics.

UR8 - 307 ADVANCED INTERVIEWING

Investigation of practice issues in successful interviewing of clients with examination of dependency, anger, withdrawal, manipulation, and counter-dependency.

UR8 - 308 SMALL GROUP DYNAMICS

Experiential approach to the theory, forces, dynamics, and interactive patterns of small groups with emphasis on examination of behavior of group participants.

UR8 - 352 MANAGING INNOVATIVE TREATMENT MODALITIES

Considers major functional disorders of childhood and adolescence ranging from transient adjustment reaction through prolonged psychotic disturbances. Innovative treatment modalities examined and analyzed.

UR8 - 362 LOW ENTROPY ENERGY SYSTEMS FOR URBAN DWELLINGS

Evaluation of effective alternate approaches for types of urban energy dwellings including solar, wind, and structural collectors and materials, heat pumps, and low entropy design.

UR8 - 371 LEADERSHIP IN ORGANIZATIONS

Problems of leadership in primarily metropolitan organizations such as public and human service agencies, health care institutions, and private corporations.

UR8 - 372 MANAGEMENT OF HUMAN RESOURCES

Practically-oriented approach to personnel management with focus on organizational behavior, staff selection, supervisory skills, performance evaluation, wage and salary policies, and techniques of employee motivation.

UR8 - 380 WORCESTER: THE RISE OF THE CITY AND ITS PEOPLE

Study from various social sciences of the evolution of

Worcester from frontier hamlet to contemporary post-industrial metropolitan central city. Special focus is on society and its changes and groupings.

UR8 - 381 WORCESTER ETHNIC SEMINAR

Study employing community visitations of the rich ethnic community development and experience in Worcester.

UR8 - 385 GREEN ROOTS: THE IRISH OF IRELAND, AMERICA, AND WORCESTER

Study of Irish emigration from Ireland to American and especially the establishment and experiences of that ethnic group in Worcester.

UR8 - 431 SEMINAR IN FAMILY STUDIES

Study of the urban family from a range of theoretical perspectives with focus on poverty, cultural isolation, family networks, and community support on family problems.

UR8 - 441 TRAINING PRACTICUM IN GROUP DYNAMICS

Designed for those that are, or plan to be, group leaders and trainers with focus on individual roles, group processes, techniques of group leadership, and relation to program or oreganiation development.

HUMAN SERVICES

HSM/ UR9 - 300 COMMUNICATIONS FOR EFFECTIVE MANAGEMENT

Effective utilization of media, memoranda, digests, letters, formal reports, and large scale meetings and confderences in managing human service organizations.

HSM/ UR9 - 320 PRACTICES IN COMMUNITY ORGANIZATION

Studies the principles and methods of effective community organization, as a process of helping perople and communities to help themselves. Range of theoretical and pragmatic approaches considered.

HSM/ UR9 - 400 LEADERSHIP SKILLS AND SOCIAL GROUP WORK

Explores values, objectives and principles of effective group leadership. Analysis of group formation, inter-group relations, developmental group stages, and termination as issues leaders face in mobilizing groups.

HSM/ UR9 - 420 ORGANIZATIONAL THEORY AND EFFECTIVE INTERVETION

Organizational theory and development strategies considered. Formal and informal aspects of organizations, authority structures, specialization and integration of functions, and the role of professional managers.

HSM/ UR9 - 440 POLITICS, PUBLIC POLICY, AND THE HUMAN SERVICES

An explication of the nature of political power and the influence of power upon the delivery of various types of social services.

HSM/
UR9 - 450 FINANCIAL MANAGEMENT FOR NON-PROFIT ORGANIZATIONS

Theoretical and practical approaches to the allocation and control of financial resources in non-profit settings. Conventional and non-conventional budgeting techniques, cost/benefit analysis, and preparation of financial statements.

HSM/
UR9 - 460 SEMINAR IN PROGRAM ANALYSIS AND EVALUATION

Explores philosophical issues, politics, and specific evaluation instruments involved in effective program analysis and evaluation. Special emphasis upon utilization of computer systems.

HSM/
UR9 - 480 ADVANCED SUPERVISION SKILLS

Examines supervision, staff development, and training in human services organizations. Case studies and supervision simulations utilized.

HSM/
UR9 - 490 STATEGIC DECISION MAKING AND COMPUTER SYSTEMS

The design, use, and organizational impact of the computer on managerial processes. Topics include systems design, modeling, inquiry systems, management information systems, and simulation.

HSM/
MG9 - 910 UNIONS AND THE PUBLIC SECTOR

An intensive examination of key collective bargaining topics. Topics include grievance-arbitrations processes, productivity bargaining, and impasse resolutions on the public sector.

HSM/
UR9 - 930 MARKETING IN NON-PROFIT ORGANIZATIONS

Examination of the role of marketing concepts and tools in non-profit organizations. Marketing research, product development, pricing, advertising, publicity, and market control studied in the non-profit sphere.

HSM/
MG9 - 950 ACCOUNTING AND BUDGETING FOR PUBLIC MANAGEMENT

Introduction to accounting and budgeting concepts as applied to the management of federal, state, and local programs. Appropriation procedures, program budgeting, fund accounting, and systematic program analysis.

HSM/
UR9 - 970 STATISTICAL METHODS FOR MANAGEMENT DECISIONS

Sampling, sampling distributions, control limit theorem, confidence intervals, probability values, analysis of variance, simple and multiple regressions, and partial and multiple correlation.

HSM/
MG9 - 971 PERSONNEL MANAGEMENT AND NON-PROFIT ORGANIZATIONS

Introduction to personnel management, manpower planning, employee selection, recruitment strategies, personnel practices, employee evaluation, and labor relations. Special focus upon human service applications.

HSM/
MG9 - 972 PUBLIC LAW

Course is designed to acquaint students with legal framework and constraints within which human service administrators operate. Discussion of rights and responsibilities, and discretionary limits of managerial decision-making.

HSM/
UR9 - 320 PRACTICES IN COMMUNITY OPRGANIZATION

Studies the principles and methods of effective community organization, as a process of helping people and communities to help themselves. Range of theoretical and pragmatic approaches considered.

HSM/
MG9 - 910 UNIONS AND THE PUBLIC SECTOR

An intensive examinaton of key collective bargaining topics. Topics include grievance-arbitrations processes, productivity bargaining, and impasse resolutions in the public sector.

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Elizabeth R. Barlow	1974
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Assistant Professor, 1970
A.B. Brandeis University
M.A. Northeastern University

Robert W. Goss
Professor, 1956
B.S. Holy Cross College
Ed.M. Fitchburg State College
M.A. Clark University
Ed.D. Boston College

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Dipl. in Soc. Welfare Pol.
M. Soc. Science Institute of Social Studies, The Hague
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B.S. Boston University
M.S. Illinois Institute of Technology

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B.S., M.A. Boston College

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M.A. Boston University

Urban Studies

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M.A.T. Harvard Graduate School of Education
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Leonard F. Farrey
Professor, 1965
B.S., Ed.M. Worcester State College
Ed.D. University of Massachusetts

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Professor, 1973
A.B. University of Rhode Island
M.A. Indiana University
Ph.D. University of Connecticut

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Associate Professor, 1972
A.B., M.A. University of Massachusetts
Ph.D. Clark University

Maureen E. Power
Assistant Professor, 1975
A.B. Emmanuel College
M.S.W.,Ph.D. Brandeis University

Academic Calendar - 1982-1983

Fall Semester, 1982

SEPTEMBER	1-2	Orientation
	3	Add/Drop Registration and Academic Advising
	6	Labor Day: NO CLASSES
	7	Classes Begin: 8:30 A.M.
	21	Last Day to Add/Drop Courses
OCTOBER	11	Columbus Day: NO CLASSES
	29	Failure Warnings Due in Registrar's Office
	29	Last day to make up incomplete grades from Spring Semester, 1982
NOVEMBER	2	Last Day to Elect Pass/Fail Option
	5	Failure Warnings Issued to Students
	11	Veteran's Day: NO CLASSES
	12	Last Day to Withdraw from Courses
	15-19	Student Evaluation of Faculty
	24	Thanksgiving Recess: Classes End at 12:30 P.M.
	29	Classes Resume: 8:30 A.M.
	29	— December 3 — Academic Advising: Register into Major and Minor Courses
DECEMBER	6	Registration: Register into Distribution and Elective Courses: NO CLASSES
	10	Classes End
	15-23	Examinations (See Schedule)
	27-29	Make-up Examination Days
	29	Semester Ends

Examination Schedule

			TIME	CLASS
Wednesday	December	15	8:30 - 11:30	MWF 10:30
			12:30 - 3:30	MWF 1:30
Thursday	December	16	8:30 - 11:30	T R 8:30
			12:30 - 3:30	T R 11:30
Friday	December	17	8:30 - 11:30	MWF 8:30
			12:30 - 3:30	MWF 11:30
Monday	December	20	8:30 - 11:30	MWF 2:30
			12:30 - 3:30	MWF 3:30
Tuesday	December	21	8:30 - 11:30	MWF 9:30
			12:30 - 3:30	MWF 12:30
Wednesday	December	22	8:30 - 11:30	T R 10:00
			12:30 - 3:30	T R 1:30
Thursday	December	23	8:30 - 11:30	Monday/Friday 3 Hour Block
			12:30 - 3:30	Wed./Other 3 Hour Block
Monday	December	27	8:30 - 11:30	Make up for December 15-16
Tuesday	December	28	8:30 - 11:30	Make-up for December 17-21
Wednesday	December	29	8:30 - 11:30	Make-up for December 22-23

Spring Semester, 1983

JANUARY	17	Add/Drop Registration and Academic Advising
	18	Classes Begin: 8:30 A.M.
FEBRUARY	1	Last Day to Add/Drop Courses
	21	Washington's Birthday: NO CLASSES
MARCH	11	Failure Warnings Due in Registrar's Office
	11	Last Day to Make Up Incomplete Grades from Fall Semester, 1982.
	18	Failure Warnings Issued to Students
	21-25	Spring Recess
	28	Classes Resume: 8:30 A.M.
	28	Last Day to Elect Pass/Fail Option
APRIL	1	Good Friday: NO CLASSES
	4	Last Day to Withdraw from Courses
	18	Patriot's Day: NO CLASSES
	19-22	Student Evaluation of Faculty
	25-29	Academic Advising: Register into Major and Minor Courses
MAY	2	Registration: Register into Distribution and Elective Courses: NO CLASSES
	6	Classes End
	9-18	Preparation and Examinations (See Schedule)
	28	Semester Ends
	28	Commencement

Examination Schedule

			TIME	CLASS
Monday	May	9	Preparation Day	
Tuesday	May	10	8:30 - 11:30	T R 8:30
			12:30 - 3:30	T R 11:30
Wednesday	May	11	8:30 - 11:30	MWF 8:30
			12:30 - 3:30	MWF 11:30
Thursday	May	12	8:30 - 11:30	MWF 2:30
			12:30 - 3:30	MWF 3:30
Friday	May	13	8:30 - 11:30	MWF 9:30
			12:30 - 3:30	MWF 12:30
Monday	May	16	8:30 - 11:30	T R 10:00
			12:30 - 3:30	T R 1:00
Tuesday	May	17	8:30 - 11:30	MWF 10:30
			12:30 - 3:30	MWF 1:30
Wednesday	May	18	8:30 - 11:30	Monday/Friday 3 hour block
			12:30 - 3:30	Wed./Other 3 hour block

1983-1984

Fall Semester 1983

SEPTEMBER	1-2	Orientation
	5	Labor Day: NO CLASSES
	6	Classes Begin: 8:30 A.M.
	20	Last Day to Add/Drop Courses
OCTOBER	10	Columbus Day: NO CLASSES
	25	Failure Warnings due in Registrar's Office
	25	Last Day to Make up Incomplete Grades from Spring Semester, 1983
NOVEMBER	1	Failure Warnings Issued to Student
	2	Last Day to Elect Pass/Fail Option
	8	Last Day to Withdraw from Courses
	11	Veteran's Day: NO CLASSES
	14-18	Student Evaluation of Faculty
	23	Thanksgiving Recess: Classes end at 12:30 P.M.
	28	Classes Resume: 8:30 A.M.
	28	— December 2: Academic Advising: Register into Major and Minor Courses
DECEMBER	5	Registration into Distribution and Elective Courses: NO CLASSES
	14	Classes End
	15-23	Examinations (See Schedule)
	27-29	Make-up Examinations for Examinations Cancelled by Inclement Weather
	29	Semester Ends

Examination Schedule

			TIME	CLASS
Thursday	December	15	8:30 - 11:30	TR 1:00
			12:30 - 3:30	TR 10:00
Friday	December	16	8:30 - 11:30	MWF 12:30
			12:30 - 3:30	MWF 9:30
Monday	December	19	8:30 - 11:30	MWF 3:30
			12:30 - 3:30	MWF 2:30
Tuesday	December	20	8:30 - 11:30	MWF 11:30
			12:30 - 3:30	MWF 8:30
Wednesday	December	21	8:30 - 11:30	TR 11:30
			12:30 - 3:30	TR 8:30
Thursday	December	22	8:30 - 11:30	MWF 1:30
			12:30 - 3:30	MWF 10:30
Friday	December	23	8:30 - 11:30	Monday/Friday 3 hour block
			12:30 - 3:30	Wed./Other 3 hour block
Tuesday	December	27	8:30 - 11:30	Make-up for December 15-16
Wednesday	December	28	8:30 - 11:30	Make-up for December 19-20
Thursday	December	29	8:30 - 11:30	Make-up for December 21-23

Spring Semester 1984

JANUARY	16	Martin Luther King's Birthday: NO CLASSES
	17	Add/Drop Registration and Academic Advising
	18	Classes Begin: 8:30 A.M.
FEBRUARY	1	Last Day to Add/Drop Courses
	20	Washington's Birthday: NO CLASSES
MARCH	14	Failure Warnings due in Registrar's Office
	14	Last Day to Make up Incomplete Grades from Fall Semester, 1983
	21	Failure Warnings Issued to Students
	19-23	Spring Recess
	26	Classes Resume: 8:30 A.M.
	26	Last Day to Elect Pass/Fail Option
	28	Last Day to Withdraw from Courses
APRIL	16	Patriot's Day: NO CLASSES
	20	Good Friday: NO CLASSES
	23-27	Student Evaluation of Faculty
	23-27	Academic Advising: Register into Major and Minor Courses
	30	Registration into Distribution and Elective Courses: NO CLASSES
MAY	4	Classes End
	7-17	Preparation and Examinations (See Schedule)
	26	Comencement
	26	Semester Ends

Examination Schedule

			TIME	CLASS
Monday	May	7	Preparation Day	
Tuesday	May	8	Preparation Day	
Wednesday	May	9	8:30 - 11:30	MWF 1:30
			12:30 - 3:30	MWF 10:30
Thursday	May	10	8:30 - 11:30	T R 1:00
			12:30 - 3:30	T R 10:00
Friday	May	11	8:30 - 11:30	MWF 12:30
			12:30 - 3:30	MWF 9:30
Monday	May	14	8:30 - 11:30	MWF 3:30
			12:30 - 3:30	MWF 2:30
Tuesday	May	15	8:30 - 11:30	MWF 11:30
			12:30 3:30	MWF 8:30
Wednesday	May	16	8:30 - 11:30	T R 11:30
			12:30 - 3:30	T R 8:30
Thursday	May	17	8:30 - 11:30	Monday/Friday 3 hour block
			12:30 - 3:30	Wed./Other 3 hour block

Graduate School Calendar

1982 - 1983

FALL SEMESTER

SEPTEMBER	11	Classes Begin
OCTOBER	2	Last Day for Application for Spring Admission
DECEMBER	23	Classes End

SPRING SEMESTER, 1983

JANUARY	24	Classes Begin
MARCH	2	Last Day for Application for Summer Admission
	15	Last Day for Graduate Students who Expect to Receive Their Degrees in May to File Application Forms
APRIL	15	Last Day for Application for Fall Admission

SUMMER SESSION 1983

Session I:	May 30 - July 8
Session II:	July 11 - August 19

1983 - 1984

FALL SEMESTER

SEPTEMBER	10	Classes Begin
OCTOBER	2	Last Day for Application for Spring Admission
DECEMBER	22	Classes End

SPRING SEMESTER 1984

JANUARY	23	Classes Begin
MARCH	2	Last Day for Application for Spring Admission
	15	Last Day for Graduate Students who Expect to Receive Their Degrees in May to File Application Forms
APRIL	15	Last Day for Application for Fall Admission
MAY	13	Classes End

SUMMER SESSION 1984

Session I:	May 29 - July 7
Session II:	July 10 - August 18

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CE9 - 150 VOCATIONAL COUNSELING STRATEGIES

Techniques involved in developing self-awareness, values, psychological needs and drives as well as the influence of the environment in earlier development.

CE9 - 155 VOCATIONAL DEVELOPMENT AND OCCUPATIONAL INFORMATION

The ways in which individuals make decisions concerning their choice of vocations; second, the types of information and data which are needed to aid people with these decisions.

CE9 - 160 COUNSELING STUDENTS WITH SPECIAL NEEDS

The special-need students. The role of a counselor and the role of Chapter 766. Facilities available to special needs students outside the school setting.

CE9 - 175 SEMINAR IN INTERVENTION STRATEGIES

Prerequisite: Minimum of 24 credits in graduate courses,including PS9-605.

Emphasis is on current intervention strategies as applied to practical cases.

CE9 - 205 THE GESTALT APPROACH AND TRANSACTIONAL ANALYSIS

Theories of Fritz Perls and Eric Berne, utilizing a lecture, discussion and experiential approach to help students explore these models as therapeutic tools.

CE9 - 210 STUDENT APPRAISAL PROCEDURES

Techniques for administering and interpreting student appraisal devices in elementary and secondary school programs; standardized and nonstandardized test devices; case study procedures.

CE9 - 250 GROUP COUNSELING I

Prerequisite: CE8 - 300.

Theories, methodology, and content of group counseling. The principles of group counseling, with an analysis of the dynamics of the individual affecting and being affected by the group are is covered.

CE9 - 251 GROUP COUNSELING II

Prerequisite: CE9 - 250 or permission of instructor.

Focuses on selected readings and provides an opportunity for students to develop their skills as facilitators or leaders by demonstration, practice and group feedback.

CE9 - 300 INDIVIDUAL INTELLIGENCE APPRAISAL (WAIS-WISC)

Prerequisite: Introductory course in Measurement.

Study of two major Wechsler tests, Wechsler Adult Intelligence Scale (WAIS) and the Wechsler Intelligence Scale for Children (WISC). Includes administation and interpretation of both these scales.

CE9 - 350 INDIVIDUAL INTELLIGENCE APPRAISAL (BINET)

Prerequisite: An introductory course in measurement.

Study of the origin and use of the Stanford-Binet Intelligence Tests. Students will learn how to administer, score, and interpret the 1960 revision of the Binet.

CE9 - 425 FAMILY AND PARENT COUNSELING

Prerequisite: CE8 - 300.

An understanding of the family system theory. Students will develop skills and counseling strategies relating to family and parent counseling.

CE9 - 450 ADVANCED PSYCHOLOGICAL TESTING

Prerequisite: CE8 - 200.

Survey of tests and testing procedures, evaluating personality variables. Objective and projective measures of personality will be studied, stressing use in non-clinical setting.

CE9 - 550 ORGANIZATION AND ADMINISTRATION OF GUIDANCE

Latest procedures, techniques and problems in guidance programs. Analysis and discussion of unusual home-room,community group and individual guidance problems will be stressed.

CE9- 800 PRACTICUM IN COUNSELING

This course is designed to give advanced graduate students opportunity to put into practice the various theoretical aspects of academic counseling and guidance.

CE9 - 925 SEMINAR: CURRENT ISSUES AND PROCEDURES IN CAREER COUNSELING

Most recent theories and techniques for career counseling and development of career education courses and programs within school systems.

CE9 - 950 INTERNSHIP IN COUNSELING

Prerequisite: Limited to advanced graduate students in the Counselor Education C.A.G.S. program. Consent of instructor required.

Students will work in a counseling center under supervision and obtain experience in the day-to-day operations of a school or agency center. Actual counseling will be included.

CE9 - 900 CURRENT ISSUES SEMINAR IN GUIDANCE AND COUNSELING

Recent issues and developments in guidance & counseling will be explored.

The Counselor Education courses have been changed to Counselor Training (CT).

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